# Lecture
ON
# NEUROLOGICAL FRAGMENTS.

*Delivered before the Hunterian Society,*

BY J. HUGHLINGS JACKSON, M.D., F.R.S., &c.

MR. PRESIDENT AND GENTLEMEN,—I am exceedingly obliged by the request to undertake the honourable task of giving the Hunterian Society's Lecture this year. It is for me a most pleasant thing to deliver it at the request of my greatly valued friend Dr. Stephen Mackenzie, our late President.

I have often thought that the scientific investigation of insanities may be best begun in general hospitals, and especially by taking for study cases of delirium in such non-nervous maladies as pneumonia and emphysema with bronchitis. These are not cases of insanity at all in the conventional sense of that word; but in a scientific regard, being departures from normal mental states, they are. After the late Dr. Monro, I have urged that the mental condition in all insanities short of dementia is double—one of two opposite mental elements. In the hospital cases adverted to the insanity is named after the positive element—delirium; but with this there coexists a negative element, if for convenience I may speak of a negative state existing. On this basis we may sometimes trace an increasing double departure from normal mentation. In cases of emphysema with bronchitis we can observe a gradual losing touch with present surroundings (negative element), and a gradually increasing quasi-relation to organised experiences of former surroundings (positive element); or using popular, but not accurate, language, the patient gradually ceases to live in the real world, and comes to live more and more in a world of his own. A sack dealer was delirious during erysipelas. The house-surgeon opened a small abscess in one eyelid while the patient was in a strait jacket. The patient's account of these circumstances was that he had been to a public-house, that the landlord fastened him down with two sacks, and then poked out one eye.

It is easy in this case to trace the substitution of unrealities, as we call them, for realities. I wish to urge that we have not only to take into account the patient's "pseudo-knowings"—that he had been to a public-house &c., his delirium sampling a positive element,—but also his "not-knowings"—that he was in hospital &c., sampling a coexisting negative mental element. We say that the patient's account was of a delusion ("pseudo-knowings"); there was a delusion for us, but in him a belief. To say that he believed in his delusion is the tautology of saying that he believed in his belief. The late Dr. Milner Fothergill gave an account of his delirium when ill with scarlet fever. It seemed to him most unreasonable that people should keep him in bed when he, a doctor, wished to go out to visit his patients. For Fothergill, when reduced to a lower mental state, it was, to use his words, "an interference with the liberty of the subject." By these remarks I wish to suggest that what we call the "disorderly" mental condition of an insane man—that sampled by his positive mental symptoms—is a mentation having the same laws as the mentation of the patient's former sane, or, as we may say, entire, self.

Let us now look at the physical condition concomitant with insanities—the two abnormal cerebral states corresponding to the two abnormal mental elements. The negative mental state—the sack-dealer's "not-knowings"—signified loss of function of the highest range of his highest cerebral centres. (If anyone objects to the term "highest centres," he can substitute "certain cerebral centres.") The mentation remaining possible to him—his "pseudo-knowings"—signified increased activities of the intact lower ranges of those highest centres. We have here loss of function coexisting with over-function, and an illustration of a principle long ago put forward by Anstie and Thompson-Dickson. We have to bear in mind both the reduction (dissolution) and the range reduced to (the level of evolution remaining). The positive element of an insane man's mental condition signifies evolution going on in lower intact ranges of his highest centres.

In hospital we can study degrees of insanity. Thus in some severe cases of emphysema and bronchitis there is delirium followed by coma, the coma or dementia being a greater degree not of the delirium, but of the negative mental state coexisting with that positive or superpositive state. Referring to a former remark, the patient, who gradually ceases to live in the real world, and comes to live in a world of his own, at length, when comatose, lives in no world at all (mentally, I mean). I attribute the "two degrees" of insanity in cases of emphysema partly to great supervenosity, to different degrees of it. The neurologist is much interested in the effects of supervenous blood. Here I make some general remarks on the action of such blood. It is well known that it stimulates certain medulla centres, whether by excess of carbonic acid or by deficiency of oxygen does not for the present concern us. Most likely a slight degree of supervenosity is beneficial in cases of emphysema by stimulating the respiratory centre, thus producing some degree of compensation. Traube and Cohnheim attributed the hypertrophy of the left side of the heart in some cases of emphysema to arterial constriction caused by stimulation of the medulla vaso-constrictor centre by supervenous blood. Such blood stimulates certain musculatures; here, perhaps, we see the reason why there are evacuations in some cases of nitrous oxide anæsthesia.

Now for delirium with, and, as I think, partly if not mainly from, highly supervenous blood, in cases of emphysema and bronchitis, for example. Since it is certain that such blood over-stimulates some lower (for example, medulla) centres, the obvious explanation of the delirium in cases of emphysema with bronchitis would be that it corresponds to over-stimulation of cerebral centres. But (Hitzig, Franck, Pitres) asphyxia renders the motor cortex inexcitable. Dr. Risien Russell has recently made for me a new research in this matter. He finds that the motor cortex of a dog is inexcitable in the third stage of asphyxia. It does not necessarily follow that because asphyxia annuls the function of the motor area that it renders the remainder of the cortex functionless. I, however, submit as a hypothesis that supervenous blood, according to its degree of venosity, diminishes or annuls the function of all parts of the cortex. If this be so, it cannot be the cause of delirium, which evidently implies function going on. In a popular use of the word "cause," as when it is said that opening floodgates causes water to flow, supervenosity may be called the cause of delirium. But speaking carefully, we can only say that it is constructively accountable for that positive mental element; it produces the negative functional state answering to the negative mental element coexisting with the delirium. I explain the relation of the two states on the same general principle as I did the condition in the sack-dealer's case. The highest, the least organised, range of the highest centres is rendered functionless when the lower and more strongly organised ranges of those centres remain functionable; the lower ranges being now uncontrollable rise in activity, and during their activity delirium occurs (Anstie's principle). (The more complex and special nervous arrangements are the less organised, and thus they "give out" sooner to injurious influences.) When the supervenosity becomes very great the lower ranges of the highest centres also succumb, and then no sort of mentation, not even the "disorderly" mentation we call delirium, is possible. I have been speaking as if supervenosity were the sole agent; but since from highly supervenous blood there will be very great stimulation, and perhaps at length exhaustion of lower (medulla) centres, the condition is probably more complex.

The study of degrees of insanity in relation to one another is very important. This can best be done by noting degrees of reduction (dissolution) of brain by alcohol. I, it may be supposed artificially, make three degrees of reduction (with subdegrees). In considering these degrees of insanity we have to take note of the coexisting negative and positive states—of the reduction of the highest centres (dissolution) and of the range reduced to (evolution remaining)—until the third degree coma, acute temporary dementia, when the mental condition is seemingly entirely negative, and the reduction of the highest centres apparently total.[1]

[1] The neurologist will find in Brain, January, 1881, a most valuable paper, by Dr. Charles Mercier, on Degrees of Dissolution by Alcohol.

For purposes of practice we have to study alcoholic intoxication carefully. It is well known that men fatally ill from cerebral lesions are sometimes locked up in police cells for drunkenness. It needs insisting on that there may be from grave intra-cranial lesions, soon causing death, not only insensibility, but manner and conduct like that of a person partly intoxicated by alcohol. Dr. Stephen Mackenzie and I have recorded[2] a fatal case of meningeal hæmorrhage producing a condition which, without the history of onset, would—certainly by the non-medical—have been taken for drunkenness. The patient was violent, swore, and, what is more striking, there was a purposive action; the patient got the chamber utensil from under his bed and used it. At the London Hospital we occasionally have under care men who, after sucking raw spirits out of a cask, are seemingly as deeply comatose as other men are after large and fatal cerebral hæmorrhage. Without the history of the circumstances and of the mode of onset, the diagnosis of apoplexy produced by alcohol from that produced by cerebral hæmorrhage is very difficult, and may be impossible. For an hour or two after injuries to the head there may be a condition very like that of a man slightly drunk. This is an important matter. I was once consulted by letter on the case of a clergyman who was accused of drunkenness—a serious thing for a clergyman. I was able to say that the condition described might have resulted from an injury to the head the patient had had. It is to be borne in mind that after an injury to the head a patient may act elaborately, if foolishly, whilst "unconscious"; that is, on his recovery he remembers nothing of his strange doings—a thing evidently of medico-legal importance.

I have suggested[3] that great supervenosity may cause loss of the knee-jerks, as when there is great cyanosis in severe cases of emphysema with bronchitis, and that possibly the absence of this tendon reaction in some cases of apoplexy is thus caused. Dr. Risien Russell was so good as to observe for me the state of the knee-jerks in an artificially asphyxiated dog; he found that they were increased during the earlier stages of asphyxia, and lost in the third stage. I suggested[4] that the preliminary increase of the knee-jerks Dr. Russell observed was owing to lack of inhibition of lumbar centres by the motor cortex, and that the loss of the jerks in the third stage was owing to the more strongly organised lumbar centres succumbing later than the cortical motor centres. Dr. Russell[5] brought forward interesting facts showing that my inference was at any rate hasty. Dr. Stephen Mackenzie, who has had a large experience of cases of anæmia, including many cases of "pernicious anæmia," tells me that he has never found loss of the knee-jerks in any case. I mention this as supervenous blood may tell by deficiency in oxygen. Rapidly induced loss of oxygen is, however, a very different thing from slow loss of oxygen (loss of many oxygen carriers in anæmia).

There is another complication. I have recorded[6] a case of epileptiform seizure affecting mainly the left leg, in which, after the fit, the left knee-jerk was exaggerated; there was also foot-clonus. Westphal, Gowers, and Beevor have noted temporary loss of the knee-jerks after epileptic fits. I suggested that the exaggerated knee-jerk in my patient was owing to exhaustion of fibres of the lateral column, whereby cerebral control was taken off the anterior horns concerned with the jerk.[7] Dr. Gowers suggests that in the case of temporary loss of the knee-jerks after epileptic fits there is temporary exhaustion of the lumbar nuclei. As in the animal Dr. Russell experimented on there had been convulsion, we have to bear in mind that the loss of the knee-jerks may have been due, or partly due, to exhaustion of lumbar centres after their discharge. Dr. Beevor remarked on this point at the meeting above mentioned. His researches on the condition of reflexes after epileptic fits[8] have to be carefully considered with regard to the question here raised.

I had the honour of reading a paper before this Society on Laryngismus Stridulus,[9] when I submitted that the paroxysms are asphyxia fits analogous to those producible artificially in rabbits and dogs. I tried to show that the relation of rickets to these seizures (Elsässer, Jenner, Gee) is that the abnormally soft ribs render the action of the diaphragm inefficient (the infant's breathing being almost solely abdominal), and thus that, especially during sleep, when the attack commonly starts, there is over-stimulation of the respiratory centre by supervenous blood, an excess of a "natural stimulant," and therefrom convulsions. Dr. Gay[10] has very ably argued against the views I put forward. I do not here reply to his criticisms, but will mention some things bearing on my speculations. When I wrote (1886), Horsley and Semon had discovered "representation" of the abductors, but not of the adductors, of the vocal cords in the medulla, and thus it seemed that there was no medulla mechanism by which (on my supposition of discharge beginning in the respiratory centre) the glottis could be closed in attacks of laryngismus. Semon and Horsley have since found that the adductors as well as the abductors of the vocal cords are represented in the medulla. Asphyxia fits are easily producible in some lower vertebrates of the mammalian class by mechanical arrest of breathing. These seizures, the physiologist tells us, are owing to discharge beginning in the (medulla) respiratory centre, a discharge started by highly supervenous blood; the discharge there beginning no doubt spreads to other centres, or possibly they are discharged by the same stimulation. 1. Convulsions are produced by clamping the trachea. 2. Curara in a certain dose paralyses the motor nerve endings to the respiratory muscles, and not those of the muscles of the limbs; asphyxia is produced, and there is convulsion of the limbs. The discharge of the respiratory centre in these circumstances is unable to effect anything upon the thoracic musculature. 3. Rabbits breathe almost exclusively by the diaphragm. Marckwald says that young rabbits "up to four months old, and even over that age, do not survive division of the phrenic nerves on both sides, but die, according to age, in a few minutes after the operation, showing strong convulsions and cyanosis, or in two or three days they die from asphyxia."[11] Probably the respiratory centres are stimulated by supervenous blood because it is deficient in oxygen.[12] 4. For (Kussmaul and Tenner) fits like those produced by clamping the trachea are produced in rabbits by rapidly bleeding them to death. 5. Such fits come on when the medulla is deprived of arterial blood by tying the great arteries of the head. 6. Artificial respiration will not prevent asphyxial convulsions by a drug if that drug stops the action of the heart, and thus arrests the circulation.[13] "Stoppage of the heart, either by a ligature directly applied to it, or by action of drugs upon it, causes asphyxia and convulsions."[14]

Of course, it does not follow from anything I have just said that laryngismus stridulus in man (the infant human being) is an asphyxia fit, as I think it is. But it would be worth while to study in minute detail the onset and march of convulsions in laryngismus stridulus, especially when they become widespread or universal, in comparison and contrast with the onset and march of convulsions in artificially asphyxiated animals. The difficulties of this comparative study are obvious, but sometimes a medical man witnesses a fit of laryngismus. Since, according to my hypothesis, in laryngismus stridulus the blood, when it has become rapidly supervenous, discharges the respiratory centre, and thus secondarily causes still more supervenosity by fixation of the thoracic cage or some part of it, it may seem that the fit on that hypothesis would necessarily be fatal. Thus Dr. Gay says[15] of my

[2] Med. Times and Gazette, April 1st, 1871.
[3] British Medical Journal, Feb. 13th, 1892.
[4] Op. cit. [5] Physiological Society, Feb. 13th.
[6] Medical Times and Gazette, Feb. 12th, 1881.
[7] I have since learned from Dr. Waller that nerve fibres are practically inexhaustible; possibly the endings of fibres of the lateral column are alone exhausted in cases of post-epileptiform paralysis.
[8] Brain, April, 1882. [9] Ibid., April, 1886.
[10] Ibid., January, 1890.
[11] The Movements of Respiration, translation by Mr. Thomas A. Haig.
[12] Although, as is the custom, one uses the word "stimulation," the supposition is that, from lack of oxygen, there is such an anabolism of material of the respiratory centres that it becomes more "explosive," and thus katabolises on slight provocation, suddenly and excessively. There are convulsions in some cases of nitrous oxide anæsthesia. Thus Dr. Frederic Hewitt writes (Med.-Chir. Trans., vol. lxxiv.): "The clonic contractions of the respiratory and extrinsic laryngeal muscles occur at or about the same time that clonic muscular phenomena in the extremities manifest themselves, and there can be little doubt that they are, like the latter, *due to an absence of free oxygen*. I have lately administered at the Dental Hospital of London, for Dr. George Johnson, *pure nitrogen*, as well as nitrogen with small percentages of oxygen, and the respiratory phenomena which have manifested themselves, as well as the general muscular movements, have so closely resembled those of nitrous oxide as to be indistinguishable from them." (No italics in original.)
[13] Lauder Brunton, Pharmacology, third edition, p. 189.
[14] Brunton, op. cit., p. 239. [15] Op. cit.

hypothesis: "Supervenosis initiates the paroxysm, which increases the supervenosity, and laryngismus would consist of a single and necessarily fatal gigantic respiratory spasm." My friend Dr. Risien Russell has been so good as to make experiments for me bearing on this matter; he clamped the trachea of three rabbits. He reports: "If the clamp was removed in the third stage from thirty to fifty seconds after all convulsions (second stage) had ceased the animal recovered without artificial respiration being performed, but if the clamp was not removed until a minute or more elapsed the animal did not recover. The heart went on beating after all the respiratory movements had ceased. An artificially asphyxiated dog recovered without artificial respiration two minutes after all convulsions (second stage) had ceased." A child, when seemingly dead after an attack of laryngismus may recover. Sir William Jenner[16] reports a very striking illustration of this. Not only is the opinion I hold of the pathology of laryngismus disputed, but the suggested localisation of the discharge on which the attack depends is also objected to. It is supposed by Horsley and Semon that fits of laryngismus are owing, not as I think to discharge beginning in a medulla (respiratory) centre, but to discharge beginning in a part of the cortex-laryngeal centre. They have certainly good reasons for this supposition. Krause, Horsley, and Semon have discovered representation of the adductors of the vocal cords in the cortex, but have not discovered representation of the abductors in the cortex, except in the case of the cat. (The cat, Semon tells me, vocalises during inspiration.) Discharge of the laryngeal centre of but one cerebral hemisphere will close the glottis (Semon and Horsley). This closure would, if kept up, cause asphyxia; but, as I learn from one of their experiments, the blood when it has, on this enforced closure of the glottis, become supervenous, so acts on the medulla as to bring the (medulla) abductor centre into activity. Horsley and Semon write:[17] "Unilateral irritation [of the laryngeal area of the cortex] produces bilateral effect. Thus, clinically, in any irritative unilateral affections of this area, spasm of the glottis, that is, bilateral adduction of the vocal cords, may occur, for example, in laryngismus stridulus. That this view is not theoretical is shown by the association, in severe cases of the last-named illness, of the glottis spasm with the so-called carpo-pedal contractions. This association is most easily explained on the assumption that we have any overflow of energy from the laryngeal to the neighbouring cortical areas for the limbs."

In some laryngeal crises (laryngismus of a different clinical kind from that already considered) there is asphyxia; there may be loss of consciousness and some degree of convulsion. I have now under my care a tabid patient who has had twenty or thirty crises in the day with loss of consciousness, and four severer seizures in bed (one after urgent vomiting and three in sleep) also with loss of consciousness. The four attacks in bed, judging from the accounts given by the patient's wife, are not unlike epileptic fits. This patient has paralysis of the abductors of the vocal cords (Semon), no doubt from a lesion of their medulla centres. This ordinarily does not seem to embarrass the patient's breathing, he being quiescent. Semon tells me that he thinks that in laryngeal crises, with or without paralysis of the abductors, there is an "irritative" state of the (medulla) adductor centres. If so, it is to occasional overaction of these centres, greatly narrowing or completely closing the glottis, that laryngeal crises are owing. I have never witnessed such severe laryngeal crises as, by description, my patient has had. If I was present at one of his seizures I should, if I could not abort the paroxysm by chloroform, very carefully note the state of his thorax, observe minutely any convulsions (eyes, hands, and face) there might be, note whether or not there was increased sweating, and inquire if there were evacuations of urine or fæces, and, if it were possible, test his knees.

Neurologists are much concerned with Regulation, and, in many maladies, with Unregulation. There is (1) nervous regulation, which needs no illustration here; (2) mechanical regulation (elasticity of arteries, &c.); and (3) what for lack of a fit name I will call "chemical regulation," stimulation of the respiratory centre by venous blood, for one example. Properly speaking there are three factors in regulation. In the case of the respiratory system (1) the (medulla) respiratory centre with its afferent and efferent nerves; (2) elasticity of the lungs and of the thoracic walls (recoil during expiration); (3) stimulation of the respiratory centre by venous blood. I shall speak almost solely of the third factor, the other two being taken for granted. What is waste in one manufactory may be material for another. What is waste for one part of the body may be material for another (Treviranus and Paget). Thus I suppose that one factor in keeping up arterial tonus in health is stimulation of the vaso-constrictor centre by effete nitrogenous products—a "natural stimulant" of that centre. An excess of a natural stimulant is a poison. High tension in some cases of Bright's disease is probably owing to an excess of the natural stimuli mentioned, and perhaps also to the presence of unnatural stimuli of similar derivation. I have suggested that attacks of laryngismus are owing to a sudden excess of a "natural stimulant" of the respiratory centre. In some cases of simple jaundice the pulse becomes infrequent. This is ascribed to stimulation of cardio-inhibitory nervous elements by bile salts. It would be venturesome to speak of this as due to the action of an excess of a *natural stimulant*, since there is, I believe, no proof that bile salts exist in the blood of the healthy. There is one thing worth mentioning in this connexion. Henoch says that he has never observed an infrequent pulse in the jaundice (catarrhal) of children under seven years of age. He supposes that the excitability of the child's nervous system compensates for the retarding action of the bile acids. But may it not be that there is less for the bile salts to poison in persons so young? The cardio-inhibitory, and probably other inhibitory nervous arrangements (Soltmann), are presumably developed later than what may be distinguished as the directive (motor) nervous arrangements. (Perhaps this is only another way of saying that the child's nervous system is excitable.) As bearing on the hypothesis I have submitted, it may be mentioned that both rabbits and young childen tolerate large doses of belladonna; it is well known that in the rabbit section of the vagus nerves alters the rate of its heart but little.

We have a very complex problem in regulation—or, rather, in unregulation—in cases of fracture dislocation of the spine, crushing the cervical cord across below the emergence of the phrenic nerves. The nervous mechanisms of the digestive, circulatory, respiratory, and animal heat systems—the "four systems"—are mutilated; there is constipation with "distension" of the abdomen; the pulse is infrequent; respiration is diaphragmatic only; temperature is often very high. For the methodical analysis of this compound confusion of regulation we have to take into account not only centres of the Lowest Level, which are Ulterior (peripheral wards) of the lesion, but also those of this level which are Citerior (brainwards) of the lesion. It is, I think, not going too far to say that the whole symptomatology is, in late stages, traversed by supervenosity. There is in the spinal fracture case as certainly an anatomico-physiological problem as there is in the case of subphrenic section of the cervical cord in a dog or a rabbit. Surgeons and physicians would gain much from the coöperation of a well-trained physiologist in the investigation of the effects of such a very local spinal cord lesion in man compared and contrasted with those in the dog, and especially with those in the very different vertebrate, the rabbit, similarly mutilated. In some cases in man there is delirium: an example of a healthy brain failing consequent on a very local spinal cord lesion—consequent on that lesion in a roundabout way—directly owing to the results of imperfect working of the "four systems" mentioned. Hence, in the spinal fracture case, in which the central nervous system is cut in two at a critical place, we have to take note of all centres of the nervous system. Further, as it is said that supervenous blood excites certain musculatures apart from nervous agency, we have to take also into account many, perhaps all, parts of the body.

Taking, quite artificially, but one symptom, great rise of temperature in some cases of fracture dislocation (subphrenic cervical cord), we find it very difficult of interpretation. The greater rate of emission of heat may not signify greater thermogenesis. Very many of the muscles—the main heat-producing organs—are "paralysed"; and thus it may be supposed that there is less thermogenesis. We cannot make calorimetrical researches on our patients. Paralysis is an indefinite word. In the case of a dog poisoned by curara, all the skeletal muscles are cut off from the motor influence of the whole central nervous system; an animal thus poisoned becomes "cold blooded." But in the fracture dislocation case

[16] THE LANCET, Jan. 2nd, 1875.
[17] Brit Med. Jour., Dec. 21st, 1889.

muscles are "paralysed" in a very different way; they remain connected with their anterior horns, and it is fair to speculate that they may not only continue to produce heat, but that, being cut off from higher inhibitory heat centres, they may produce more than normal. I have been speaking of "paralysis below the lesion"; there is no doubt, from destruction of grey matter of the part of the cord crushed, some "paralysis at the lesion"; but the amount of muscle thus cut off from the influence of the central nervous system is a negligible quantity. If the "muscles below the lesion" cease to produce heat, then, as Hutchinson has said, they become refrigerators—have to share in the heat produced by "muscles above the lesion." A patient of the late Mr. Hilton lived fourteen years after a fracture dislocation crushing the cervical cord across below the emergence of the phrenic nerves. Did not the "muscles below the lesion" in this man produce heat when they were "paralysed"? If they did not, they would have had to share the heat produced by the "muscles above the lesion" (and of course by other parts of the body), and would thus be refrigerators.

A question in neurology—one of great physiological interest and clinical importance—is raised by certain researches of Charlton Bastian.[18] He showed that in some cases of an absolutely complete transverse lesion of the cord above the lumbar enlargement the knee-jerks were absent and the legs flaccid up to the time of death three or four months later. This is quite contrary to current doctrine. So far as I have observed in cases of fracture dislocation crushing the cervical cord completely across, the knee-jerks are lost—to take that one symptom for illustration. I am greatly interested in this matter, since Bastian's conclusions harmonise with a hypothesis I have put forward as to cerebral and cerebellar influxes. It may be said that did the patients referred to live long enough their knee jerks would return. In some dorsal cases under my care the knee jerks have returned—in one case after being absent for thirty-eight days, and in another for two years; there is in neither case any return of sensation or motion in the legs. But granting for the sake of argument, and for the sake of argument only, that there has been no re-establishment of lines of connexion in these cases, we have still to explain the absence of the jerks for weeks and months, in conditions where shock was out of the question. If Bastian has only shown that the knee-jerks are absent for weeks or months he has made a valuable contribution to clinical medicine; I should still think that the doctrine of cerebellar influx is countenanced. The situation is not so simple as it has been supposed to be. In many such cases (Bowlby) the superficial reflexes are present, or, if absent at first, may return. It has been said that when in chronic cases the knee-jerks are absent there are set up secondary morbid changes in centres below the lesion, and perhaps in peripheral nerves; we have, however, to explain not only the loss of the tendon reaction, but also the presence of the superficial reflexes. There is priapism in cases of fracture dislocation of the cervical spine; it may be (Hutchinson) present in "shock." Does not this show over-action of some elements of Stilling's nucleus? Moreover, those who suppose that secondary morbid changes set up in centres below the lesion cause loss of the knee jerks for months have to account for the return of these tendon reactions in some cases. Are those morbid changes reversed or in part reversed? We have, with regard to the doctrine of cerebellar influx, to bear in mind that in many cases of tumour of the middle lobe of the cerebellum the knee jerks are absent. I may mention a case (necropsy) of hæmorrhage into the left lobe of the cerebellum (observed by Dr. Penberthy, my late house physician) in which the right knee-jerk only was lost; I say nothing as to the bearing of this case.

I have applied the doctrine of non-antagonised cerebellar influx in the explanation of athetosis and paralysis agitans, supposing that in both, upon loss of cerebral influence, there is preponderance of cerebellar influence. It is right that I should state facts counter to this application of the hypothesis. Victor Horsley, by removing the "arm area" of one of his patients, put a stop to athetosis. There is on record[19] a case of cerebral hæmorrhage occurring in a patient the subject of paralysis agitans; the tremor ceased on the side of the body paralysed, continuing on the other.

[18] Med. Chir. Trans., 1890, vol. lxxiii.
[19] Raymond: Hemichorea.

The symptoms of disorder (unregulation) of the organic systems—very strikingly of the respiratory—are most important. When death occurs in apoplexy from cerebral hæmorrhage it is with failure of the respiratory system, and presumably of the other organic systems. These failures may be put down to lack of so much brain, but not rarely do we see patients who live for years with much more extensive destruction of brain than that by a hæmorrhage which may kill in a few hours. They may be ascribed to the wider abnormal state of the brain which answers to loss of consciousness, or perhaps to pressure indirectly transmitted to the medulla oblongata. I have to suggest a different interpretation.

In some cases of cerebral hæmorrhage, where there has not been loss of consciousness at first, and in which respiration, circulation, and temperature have been apparently normal for some time, disorder of these systems ensues later on. There is, what many years ago I used, after Trousseau, to call "cerebral fever." In such cases it seems to me that the "fever" depends, not on the immediate effects of the effusion, but on secondary effects the clot produces in medulla centres. To consider methodically the question here raised we should study cases of other "foreign bodies"—tumours, abscesses, and other masses in the brain. In these cases it is notorious that there is one distant effect. Optic neuritis is nearly always set up, and I submit that, adopting the principle of a hypothesis put forward by Buzzard,[20] there are other "distant effects," that morbid changes akin to those of optic neuritis are set up in medulla centres. We certainly have, in very many cases of optic neuritis from cerebral tumour, to explain the urgent "purposeless" vomiting. Moreover, in such cases there may be a chronic illness with occasional vomiting, infrequent pulse, constipation, and emaciation. In a few cases of cerebral tumour there is an acute illness very like tubercular meningitis. Further, it is notorious that some patients who have cerebral tumour die suddenly. It is not at all likely that death occurs from the destruction the tumour causes directly, or by the softening induced round about; it is not likely that it occurs from mere lack of so much cerebral hemisphere. Again, as the late Hilton Fagge first pointed out, death occurs rapidly in some cases of intracranial tumour by respiratory failure. It may be asked, "Why does respiration in such cases fail rapidly?" I can only suggest an analogy. It is well known that sight may be good in optic neuritis for a long time, and then rapidly fail. So I imagine that in the cases mentioned morbid changes are slowly produced in the respiratory medulla centre, and that that centre fails rapidly, perhaps having worked inefficiently some little time before. After irruption of blood in the brain that blood becomes a clot, acts as a "foreign body," produces a local encephalitis, and by intermediation of this there are set up secondary morbid changes, changes in centres (respiratory among them) of the medulla. This is of course hypothetical. At any rate, in a case of large cerebral hæmorrhage, it is at least convenient to distinguish several modes of action of the escaped blood: (1) It destroys, and thus produces such symptoms as hemiplegia; (2) according to the rate of its escape it causes "shock"; (3) according to its bulk it squeezes, and thus, in addition (2), it produces loss of consciousness; (4) in its character as a "foreign body" it may produce encephalitis, and thereby, hypothetically, "cerebral fever" by changes induced in medulla (regulating) centres. But this is not all; (5) in some cases of cerebral hæmorrhage, in which consciousness, if defective, has not been lost at the onset, delirium may occur. I submit that this is mainly a "return effect" on the brain, a consequence of imperfect working of the respiratory and other organic systems, a state of things analogous to that in the delirium of some cases of emphysema with bronchitis, and in some cases of cervical fracture dislocation of the spine.

[20] Trans. Ophth. Soc., vol. i. 1881, p. 98.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—The report for the year 1891 shows that 15 per cent. more patients had been dealt with than in any previous year, the largest number during any twelve months since the infirmary was opened. The income showed a small deficit, the disbursements necessarily being more, owing to the additional number of patients relieved.

# Lecture
ON
# TISSUE- OR CELL-FIBRINOGEN IN ITS RELATION TO THE PATHOLOGY OF BLOOD.

*Delivered at the Theatre of the Laboratories of the Conjoint Colleges of Surgeons and Physicians, on Feb. 4th, 1892,*

BY A. E. WRIGHT, M.D. DUB.,
LATE GROCERS' RESEARCH SCHOLAR.

*(Concluded from page 459.)*

KEEPING therefore in view those phenomena which are observed after an injection of tissue-fibrinogen, we have to bring them in connexion with the phenomena observed after injections of leucocytes. These phenomona have been studied by Groth, Wooldridge, and Krüger. I have already indicated in connexion with Wooldridge's work that the method of experimentation he adopted appears to exclude from the injection all the rapidly disintegrated α-leucocytes, and such products of their disintegration as would naturally pass into solution in the lymph plasma. On the other hand, in the methods of Groth and Krüger there is either no provision (in the case of Groth's experiments) or ineffectual provision (Krüger's experiments) is made for the elimination from the injection of such elements of the lymph plasma as have not been derived from leucocytes. Having said thus much in criticism of the methods, we may pass on to the results obtained by these observers from their injections. Krüger and Groth both succeeded in obtaining intra-vascular coagulation with their injections. They, further, noticed that when the injections of leucocytes were not sufficiently large to entail such intra-vascular coagulation, the blood, when collected after the lapse of a few minutes, showed a very marked diminution of coagulability. The results Wooldridge obtained were in all cases a diminished coagulability of the blood after injections of washed leucocytes. It will be immediately evident that in the case of Groth's and Krüger's experiments we have to deal with the same sequence of positive and negative variation which we are now familiar with in connexion with tissue-fibrinogen injections. In Wooldridge's experiments we have only a negative phase of coagulation put on record. In connexion with this I would make the suggestion that a very transient positive variation may very easily have occurred here and have escaped notice. Groth has emphasised the fact that such a positive variation is sometimes so transient that it is necessary to draw off a sample of blood during the actual progress of the injection in order to satisfy oneself of the actual occurrence of such an increase of coagulability, and we have seen confirmation of this in the case of the protocol which has been quoted (*supra*, p. 459). It is therefore probable that Wooldridge's failure to obtain evidence of the occurrence of a positive variation of coagulability after his leucocyte injections was attributable to his not withdrawing a sample of blood immediately after his injection was completed. I believe, therefore, that Wooldridge's experiments do not in the least contradict those of Groth and Krüger. And it may be accepted that the phenomena of a positive phase, succeeded by a negative phase, are to be observed in exactly the same way after a leucocyte injection as after a tissue-fibrinogen injection. The identity of an injection of leucocytes with an injection of tissue-fibrinogen is also brought out by the results of Groth's leucocyte enumerations of the white corpuscles in the blood. These enumerations yielded the result that not only are the leucocytes of the circulating blood not increased by the large injections of leucocytes, but they are, on the contrary, positively diminished even in cases where no intra-vascular coagulation can be detected. This will become evident on the consideration of the following figures which I have extracted from Groth's paper:—

| | Before injection. | After injection. |
|---|---|---|
| | Number of white corpuscles in the blood. | |
| Experiment 5 .. .. | 10,483 ..... | 6115 |
| „ 6 .. .. | 29,265 ..... | 5678 |
| „ 7 .. .. | 17,908 ..... | 2512 |

It is thus evident that the increase of coagulability after leucocyte injection is associated with a breaking down not only of the injected but also of some at least of the aboriginal leucocytes of the blood, and this breaking down of leucocytes must evidently go hand in hand with a setting free of tissue-fibrinogen in the blood.

Up to the present we have been dealing exclusively with injections of leucocytes derived from the lymphatic glands, and we have to amplify the data thus obtained by a study of the effects of leucocytes derived from other sources. Here, again, we are indebted to Schmidt's pupil, Dr. Groth. Groth determined that the addition of pus cells to the circulating blood was followed by very similar results to those which resulted from the intra-vascular injection of lymphocytes. The phenomena of the positive phase—i.e., those of intra-vascular coagulation—were, however, much less prominent, and the negative phase was, on the other hand, perhaps rrelatively more marked than with lymphocytes. These observations have an important bearing upon the causation of the negative phase, inasmuch as the prominence of the phenomena of the negative phase after pus injections probably stands in close relation to the very considerable quantity of "peptone" or albumoses which Hoffmeister's researches have shown to be present in pus either as actually pre-formed or in such loose combination that the addition of moderate quantities of alkalies is sufficient to set them free.

I have now laid before you merely the broad facts which seem to me to point to the identity of the phenomena which are observed when, on the one hand, leucocytes, or, on the other hand, tissue-fibrinogen is injected into the blood, and if that connexion has been sufficiently established, it will necessarily follow that wherever we get a disintegration of leucocytes in the blood we have to deal with a setting free of tissue-fibrinogen. This liberation of tissue-fibrinogen in the blood will result in an immediate increase of the coagulability of the blood, which, if it does not culminate in immediate intra-vascular coagulation, will last only until such time as the organism shall have been able to accomplish the breaking down of the tissue-fibrinogen into albumoses. Further, we have to remember that when this reactive process is accomplished we are introduced to a negative phase of decreased coagulability which in its turn gradually passes off by the excretion of the albumoses in the urine. According to this view, therefore, the disintegration of leucocytes, the liberation of tissue-fibrinogen in the blood and the excretion of albumoses constitute a closely inter-related sequence of symptoms which must be constantly manifesting itself in the course of all such pathological processes as go hand in hand with an increase of leucocytes in the blood. I believe that the clinical facts do in effect bear out this view. The pathology of croupous pneumonia, for instance, supplies us with, I think, a very well marked instance of the inter-relation between the three members of our symptom-sequence. We have first an enormous increase of the numbers of the leucocytes, which, though they are for the most part to be found outside the vessels, are yet in immediate relation to them. We have then, especially when the stage of absorption is reached, the well-marked increase of coagulability in the blood, which I take it is due to the absorption of tissue-fibrinogen.[1] We have, further, the well-known occurrence of peptonuria, or rather, as Lea Dickinson and Fyffe have shown, of albumosuria; and in connexion with the presence of albumose in the blood we have, as Dr. Dickinson has pointed out, the frequent occurrence of diarrhœa, which, I may remark in passing, is also very frequently seen in connexion with injections of tissue-fibrinogen. The other cases of what we may call peptonuria—for the distinction between peptone and albumose is, after all, a very much over-rated one—are associated with pyæmic conditions and with the defervescence period of certain fevers, such as measles or scarlatina. Here, again, we are probably dealing with leucocyte disintegrations. Further, we have the peptonuria of osteo malacia, which, however, is apparently not an invariable accompaniment of that condition, but rather an accompaniment of any

[1] Since the date of this lecture I believe that I have definitely established this by preparing large quantities of tissue-fibrinogen from consolidated pneumonic lungs, which were very kindly obtained for me by my friends, Dr. H. S. Rolleston and Dr. E. H. Starling. A few cubic centimetres of the solution of this tissue-fibrinogen, when injected intra-vascularly, gave the typical universal thrombosis in a rabbit and the typical portal thrombosis in a dog.

proliferation of the cells of the bone marrow, whether arising from that cause or from the presence of tumours. Lastly, we have the peptonuria of phosphorus poisoning, which is also probably due to the increase of leucocytes in the blood which is described in connexion with that condition. All these cases of what we may for convenience call peptonuria may be grouped together under the term of "hæmatogenous peptonurias."[2] I believe they are probably all due to a disintegration of tissue-fibrinogen in the blood. In contradistinction to these we have the class of what have been called "pyogenous peptonurias," because they occur wherever we have a mass of disintegrating pus in the body, provided the conditions are favourable to the absorption of the products of such decomposition. It is evident from the researches of Hoffmeister, which I have referred to above, that the further disintegration of the leucocyte, or of the tissue-fibrinogen which is liberated from it, into albumose may occur in the abscess itself, instead of in the blood. In that case we would, of course, not have any positive phase of coagulability from the absorption of tissue-fibrinogen.

We have thus seen that peptonuria is probably in all cases associated with an increase in the number of leucocytes in the system, and that an increase of coagulability in the blood is only to be expected where the primary product of their disintegration—i.e., the tissue-fibrinogen—obtains access to the blood. Generally speaking, this will occur when the leucocytes disintegrate in the blood stream itself. Further, the greater or less coagulability of the blood will generally depend upon the number of leucocytes present. We have an apparent exception to this last rule in the case of leucocythæmia, where, as is well known, the coagulability of the blood is decreased rather than increased. The explanation of this exception, however, here lies readily to hand, for the increased coagulability we have spoken of all along is a relation which obtains only as between leucocytes and normal plasma, and in leucocythæmia, as Jacob v. Samson-Himmelstjerna (another of Schmidt's pupils) has shown, the power which the leucocythæmic plasma has of breaking down the cellular elements of the blood for the purpose of fibrin formation is diminished, while the power possessed by the cellular elements of contributing a fibrin factor to the coagulation of healthy plasma is still retained.

The clinical evidence is thus apparently conclusive that the sequence of symptoms, increased production of leucocytes, increased disintegration of leucocytes in the blood, increased coagulability, subsequent peptonuria, is one which does not infrequently manifest itself; but as the importance of the subject seems to render it desirable to obtain even further experimental evidence upon this subject, I have endeavoured to make some further observations in connexion with this complex of symptoms. Two methods of experimentation suggested themselves. It was evidently possible, if a method of increasing the leucocytes in the circulating blood could be discovered, (*a*) to employ that means of increased production with a view to attaining a subsequent increased disintegration of the leucocytes in the blood by the natural destructive processes of the body, and, further, (*b*) it was possible to bring about the artificial disintegration of such leucocytes as exist at a particular moment in the circulating blood by the administration of some drug such as quinine (Binz) or atropine (Horbaczewski), which possesses this property of disintegrating the leucocytes present in the blood. I have as yet made a few preliminary experiments in each of these directions. My experiments in the first direction have been of a more or less incidental character, and were obtained in the course of experiments upon the question of immunity from anthrax, as obtained by means of injections of Wooldridge's tissue-fibrinogen. I noticed in connexion with these that some of my rabbits which were being put through a course of preparation for anthrax inoculation, consisting of daily injections of tissue-fibrinogen solution, died before the period for that inoculation arrived; and the post-mortem examinations revealed the existence of discoloured branching coagula in the heart and great vessels, which must evidently have been formed during the lifetime of the animals. Here we had, therefore, a late coagulation as a consequence of tissue-fibrinogen injection, a phenomenon for which I was totally unprepared. Some time afterwards, in reading over Groth's work on the injection of leucocytes, his figures, which pointed to an enormous increase of leucocytes in the blood two or three days after the injection of leucocytes, arrested my attention. I have verified these observations in some twenty rabbits in the case of injections of sterilised tissue-fibrinogen solutions, and have seen the leucocytes invariably considerably increased—sometimes increased to as many as six times their normal number. The subject is one which I am following up in connexion with its evident bearing on the causation of immunity by tissue-fibrinogen injections. What interests us, however, here is only the fact that an increase of leucocytes in the blood stands in evident relation to an increase of coagulability. With regard to the second method of experimentation—viz., the administration of quinine for the purpose of artificial disintegration of the leucocytes in the blood—I am not prepared yet to make a positive statement; but in several experiments which I made upon the subject I obtained at first an enormous increase of coagulability; and though I have in no case succeeded in discovering any intra-vascular coagulations under these circumstances, still it is at any rate suggestive that it has frequently been suggested that the blindness which sometimes comes on after the administration of poisonous doses of quinine may be due to retinal thrombosis, and I find that De Schweinitz[3] of Philadelphia has recorded at least one case in which quinine blindness in a dog was associated with thrombosis of the ophthalmic and retinal veins. That thrombosis is not of frequent occurrence after quinine is probably due to the fact that the system would be thoroughly well able to cope with an amount of fibrinogen comparable to that which would be derived from the disintegration of a normal quantity of the leucocytes present in the blood.

With this I have completed the survey of facts which I had prepared to lay before you on the afternoon originally fixed for this lecture. Since that time I have, however, come across a communication which has just been published by the very eminent Austrian observer, Horbaczewski, and which completes for us a whole missing chapter of our subject. I am only too conscious that I have already almost exceeded the limits of time appointed to me, so I will only ask to be allowed to put his results before you in a tabular form in their connexion with the work that has been done upon tissue-fibrinogen. Before throwing this tabular synopsis upon the screen I would like to point out where the missing chapter which Horbaczewski has supplied comes into our subject. Tissue-fibrinogen, as I have previously been able to point out, is chemically a nucleo-albumen—that is to say, it is a substance which is at first sight deceptively like an ordinary protein or albuminous substance. When, however, we subject it to a peptic digestion we find that instead of passing entirely into solution it deposits a voluminous precipitate of a phosphorus-containing substance known as nuclein. Hence we conclude that tissue-fibrinogen is twi-natured, that it is by its one-half an albuminous or protein substance, and that it is by its other half a nuclein, and that these two moieties are separable from each other by the process of digestion. These properties determine its classification as a nucleo-albumen. Now we have discussed the physiological importance of the whole substance, its relation to coagulation, and the increase of leucocytes which follows its administration, and we have followed the fortunes of the protein moiety into which it disintegrates. We know that that protein moiety is excreted as an albumose. We have, however, not inquired as to what became of the nuclein moiety in the system. That is the chapter which Horbaczewski has worked out for us. Horbaczewski, I may remark, prepared his nuclein by digestion from the leucocytes of the spleen without any previous isolation of the tissue-fibrinogen.

I would now, without any further preliminaries, draw your attention to the following table.

WOOLDRIDGE'S TISSUE- OR CELL-FIBRINOGEN.

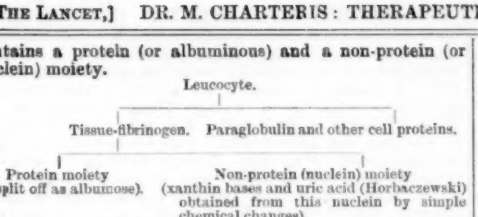
*Source of tissue-fibrinogen.*—The protoplasm of leucocytes, also the protoplasm of the cells of the testicle, and probably also of yeast cells.

*Chemical composition of tissue-fibrinogen.*—This substance is chemically a nucleo-albumen or nucleo-protein, and

[2] This term has been employed by v. Jaksch for peptonurias which are, upon his assumption, produced by the liberation in the blood of peptone "carried" by the leucocytes.

[3] Ophthalmological Review, 1891. Reported in THE LANCET, Dec. 5th, 1891.

contains a protein (or albuminous) and a non-protein (or nuclein) moiety.


Leucocyte.
Tissue-fibrinogen.
Paraglobulin and other cell proteins.
Protein moiety (is split off as albumose).
Non-protein (nuclein) moiety (xanthin bases and uric acid (Horbaczewski) obtained from this nuclein by simple chemical changes).

PHYSIOLOGICAL EFFECTS OF THE ADDITION OF TISSUE-FIBRINOGEN TO THE BLOOD.

1. *Immediate increase of coagulability* (Wooldridge's "positive phase of coagulability"). (*a*) Observed by Groth and Krüger after injections of leucocytes (intra-vascular coagulations produced). (*b*) Observed by Wooldridge after injection of solutions of tissue-fibrinogen (intra-vascular coagulations in portal area in the dog). (*c*) Observed by the author after injection of tissue-fibrinogen (intra-vascular coagulation in any vascular district where blood has been rendered adequately venous). (*d*) Probably comes under observation clinically in the increase of coagulability in the venous system in the resorption stage of pneumonia.

2. *Subsequent diminished coagulability* (Wooldridge's "negative phase of coagulability")—(*a*) Observed by Groth and Krüger after the injection of leucocytes; (*b*) observed by Wooldridge after tissue-fibrinogen injections, especially in the blood of the extra-portal vascular areas; (*c*) shown by author probably to depend upon the setting free of albumose or peptone by the disintegration of the tissue-fibrinogen in the blood; (*d*) no clinical record of occurrence.

3. *Excretion of albumoses or peptone in the urine* (referable to the protein constituent).—(*a*) Observed by the author after injection of tissue-fibrinogen solutions both in the dog and in the rabbit. (*b*) Observed clinically in connexion with the disintegration of leucocytes in pneumonia, pus-absorption, pyæmia, and proliferating tumours of bone marrow, &c.

4. *Increased excretion of uric acid* (referable to the nuclein constituent).—(*a*) Observed by Horbaczewski (in man and animals) after administration of nuclein prepared from the leucocytes of the spleen. (*b*) Shown by Horbaczewski to go hand in hand with every increase of leucocytes in the blood. (*c*) Comes under observation clinically in connexion with the increase of leucocytes in pneumonia (croupous) and leucocythæmia, burns, and scalds.

5. *Later occurring increased leucocytosis* (referable to the nuclein constituent)—(*a*) Observed by Groth two or three days after the injection of leucocytes; (*b*) observed by author after injections of tissue-fibrinogen; (*c*) observed by Horbaczewski after the administration of nuclein prepared from the leucocytes of the spleen; (*d*) possible connexion with immunity from anthrax obtained by tissue-fibrinogen; experiments with nuclein in progress.

I have not time here to go into the important issues which Horbaczewski's work opens up. I would merely point out that to the triad of symptoms which has been referred to in the body of this lecture we are now able to add two additional symptoms—namely, those that are enumerated on the table under headings 4 and 5. I would also point out that we find all the symptoms, 1, 2, 3, and 4, making their appearance in every ordinary case of croupous pneumonia, so that we may regard this disease as affording an almost classical instance of the effects of tissue-fibrinogen on the blood. The association of an increased uric acid excretion with peptonuria and with a more coagulable condition of the blood is not, however, limited to croupous pneumonia. It occurs also in connexion with, for instance, certain "rheumatic" or "gouty" conditions, and in connexion with burns and scalds. In the case of these last, we find thromboses in the portal area (leading to gastric and duodenal ulcers) associated with peptonuria and an increased uric acid excretion.

And now, in conclusion, I would desire to be allowed to express my very sincere thanks to the Councils of the Royal Colleges of Surgeons and Physicians, and more especially to the Laboratories Committee of the Conjoint Colleges, not only for their kindness in permitting me to work in their laboratories, but also for the very liberal manner in which I have been supplied with every appliance which was necessary for my work. Lastly, I feel that I have a debt of very special gratitude to discharge to Dr. Sims Woodhead for much unselfishly afforded assistance, and, above all, for his continual gift of sympathetic interest in the work upon which I have been engaged. I believe that I am only expressing what is felt equally by every other worker in these laboratories when I say for myself that the help and sympathetic interest of such a director of studies as Dr. Woodhead have come to me as an especial and superadded stimulus to endeavour that the researches which emanate from these Laboratories may be such as to justify the labour and care and expense which have been involved in their establishment and maintenance.

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THE

# THERAPEUTICS OF CERTAIN AILMENTS.

BY M. CHARTERIS, M.D.,

PROFESSOR OF THERAPEUTICS AND MATERIA MEDICA, UNIVERSITY OF GLASGOW.

## CHLOROSIS.

THE leading symptoms of this affection, so often seen in young females at the age of puberty and from that period up to the eighteenth year, betoken an enfeebled circulation, which is dependent upon a marked deficiency of hæmoglobin, and to rectify this all authorities recommend the use of iron in large doses. But, as a rule, text-books do not descend to details as to the mode of administration. This is the important point, and to illustrate this I now give my experience of eighty cases, which during the last five years have come under my observation. I explain to the patient the object of the treatment by saying that her blood is thin, and that iron will alone do good, and that she must take it in a systematic manner. Her assent is gained by stating that if she acts as directed in less than a week there will be visible improvement of her health. This prognosis proves effectual, and she is told to take of pil. ferri or Blaud's pill three daily, and to go on increasing by one each day until fifteen at least are taken daily, and then to diminish the number by one daily. The time of taking them does not matter much, but it is better to swallow them at 9 A.M., 2 P.M., and 7 P.M. The tasteless character of the pills is mentioned, their non-aperient character explained, and in no case except one have I heard about any difficulty in swallowing them. Health is always restored in four weeks. The menses, if deficient or irregular, come on at the normal periods; but the patient should be told that the poverty of blood may return in the course of four or six months, and that it will be necessary, if this be so, to resume the treatment, beginning with the gradual increase mentioned, and going up to nine daily, and decrease by one daily. This number proves sufficient in the majority of cases, and, as a rule, there is no further relapse.

## SEA-SICKNESS.

Some persons, unfortunately few in number, stand the sea well, and to them a voyage is from beginning to end a source of unmixed pleasure. Others stand it so badly that the prospect of a voyage is entertained with feelings of actual dread, or as a thing that must be endured. They expect to be sick, and this expectation is generally fulfilled. If we take a professional view of *mal de mer* we may say, more especially in relation to the treatment to be adopted, that there are two stages: first, pallor, nausea, vomiting, which is succeeded by a second stage, of exhaustion, retching, depression, and in many cases sleeplessness, or sleep not refreshing in its nature and attended by dreams of a painful character. The approach and duration of the first stage varies, but when begun it continues until the stomach is empty, and is succeeded by the second stage, which may be prolonged for a more or less indefinite period, in many cases extending even over the whole voyage. Various remedies have been advocated to avert the first stage—such as cocaine, antipyrin, nitrite of amyl, morphine, bismuth,—but at the present time it is generally conceded that no drug, or combination of drugs, cuts short an attack begun, or prevents its occurrence in those who are predisposed to it. Indeed, many believe that vomiting should be encouraged, by drinking warm water, so that the stomach may be sooner freed from its contents. In the second stage the remedies most relied upon are preparations of opium or morphine, hydrate of chloral, and bromide of potassium. Opium or

morphine, if retained, will cause sleep, but at the expense of awakening with severe headache and a lack of appetite. Hydrate of chloral is dangerous if it be given in a hypnotic dose of thirty grains, for in such a dose it markedly weakens the action of the heart and leads to great depression. Bromide of potassium is safe, and its utility is recognised. Dr. Lauder Brunton says that "in sea-sickness it is perhaps more useful than any other remedy." The great objection, however, to its use is its saline pungent taste, which renders it very objectionable when the stomach is irritated and weak, and leads to its almost immediate rejection. Besides, unless it be given in large doses, it exercises little influence on the system as a hypnotic. Yet undoubtedly the bromide contains properties which cannot be minimised, and the question is how can these properties be rendered more valuable? The answer will now be given: By bringing to its aid another drug—chloralamide—which within the last three years has become a favourite remedy in treating cases of insomnia, because it is a safe and reliable hypnotic. It is prepared by combining chloral with foramide, and is a colourless crystalline body, soluble in nine parts of water and one and a half parts of alcohol. It differs from hydrate of chloral in its less solubility and its non-toxic action. Chloral depresses the action of the heart; chloralamide does not, for in a dose of thirty grains it will cause sleep without any change in the circulatory or respiratory system. In a word, it possesses all the advantages and none of the disadvantages of chloral. It is prepared by E. Schering of Berlin, which firm has a world-wide reputation as the makers of pure and reliable chemical compounds. The combination, therefore, of these drugs—chloralamide and bromide of potassium—was much to be desired. It is, however, no easy matter to do this, at least in a palatable and presentable form, and requires the services of a skilled pharmacist. At my suggestion and after many trials, Messrs. Burgoyne, Burbidges, and Co., London, have succeeded in making a solution palatable and stable. It will suit the most fastidious taste, and the therapeutic influence of the two chief constituents is markedly aided by the addition of other adjuvants. Their preparation is known as "chlorobrom," an ounce of which contains thirty grains of chloralamide and thirty grains of bromide of potassium. In this dose, when given in cases of insomnia dependent upon nervous excitement or mental strain, sleep ensues in the course of half an hour, and lasts from six to eight hours. This sleep is most refreshing, and the awakening from it is attended by no headache, no thirst, and no depression. The patient rises as if from natural sleep, perfectly fitted to undertake the duties of daily life, and, so far as I have seen, the habit of taking it is not engendered. There is no desire for its further use except when the same condition of sleeplessness occurs. The physiological action of chlorobrom being thus potent and beneficial when administered to persons on land, it occurred to me that I would try it in cases of sea-sickness when opportunity offered. This I did in my autumn holiday, first to Norway, and then to the United States. I knew it would do good if it was retained by the stomach, and the question of giving it was narrowed down to this crucial point. It was with great satisfaction that I noted, in ten cases where I gave it after the first stage of active vomiting had ceased, that in each it was not rejected. To make assurance doubly sure, I gave samples of the solution to ship surgeons for trial, and requested them to give me their unbiased opinion as to its action. Their verdict is altogether confirmatory, as the reports which follow show. Given at the time mentioned, for this is the *sine quâ non* of its administration, it has been invariably successful. It has always been retained, and it has always done good. A lady to whom I gave it writes a graphic and telling description of her sensations when sick, and the manifest improvement which followed upon its use. "I was very restless and sleepless, indeed was unconscious of having slept any for two nights. After taking a tablespoonful I quickly fell asleep, slept the whole night, and awoke as refreshed as when sleep is natural. I took it a second time with the same result. My good health and appetite for the remainder of the voyage I attributed to those two nights' sound sleep. I had no return of *mal de mer*, nor even any of its sensations. During the homeward voyage I longed very much for a dose; had I got it after the first sickness had passed off I am quite sure I would have got all right. After sea-sickness one feels so worn out and restless; now the hypnotic, besides producing sleep, soothed one so much that these feelings quite passed away. I certainly would not care to go another voyage without having it with me." I carefully watched its action in the case of a gentleman who, in a voyage from America in the autumn, shared a state cabin with me. On the morning of the first day after leaving port he became very sick, and continued so all day. In the evening he was very restless, and the retching was extreme. I gave him an ounce of the solution. He fell sound asleep in fifteen minutes, his breathing being easy and his pulse-rate normal. He awoke refreshed after eight hours' sleep, and continued well during the remainder of the voyage. Four ship surgeons, who have tried it, report as follows. Full reports of each case treated by these surgeons are in my possession, but their publication here would occupy too much space. Dr. Nevin, s.s. *Furnessia*, Atlantic Ocean, Sept. 13th, 1891, after giving it in three cases, says: "Its effect is instantaneous." Dr. Belcher, s.s. *Circassia*, after giving it in four cases, writes: "I have grave doubts if this solution would in any way check *mal de mer* in its first stage, but I feel confident it would assist and relieve, if not cut short, subsequent suffering if wisely used, more especially in those who have either debility or other troubles to battle with." Dr. Arthur Scott, Tilbury Docks, London, Dec. 18th, 1891, surgeon to s.s. *Clan Mackintosh*, on his return voyage from Calcutta, after giving it in ten cases, writes: "It appears to me to possess the inestimable advantage of being retained by the stomach, of ensuring sleep, and of leaving the patient free from headache." Dr. Andrew Wylie, s.s. *Hispania*, Port Said, Dec. 31st, 1891, after giving it in two cases reports: "Before the solution was taken everything was vomited, but the solution was not vomited, and small quantities of food taken afterwards were retained. It secured a sleep of eight hours, and the patients on awakening had good appetites, and declared they had never felt better in their lives." From my own observations, and from the conclusions of ship surgeons which have been given, I feel justified in saying that chlorobrom has the crowning advantage of being absolutely safe. It succeeds when other remedies fail; it secures by sleep the gastric and mental repose which nature craves for; it takes away all distress, all depression, and all the indescribable but terrible sensations of *mal de mer* in its second stage.

*Dose.*—In the case of females the dose is one tablespoonful; in males, one tablespoonful and a half. This solution has as yet only been tested in the second stage of sickness which is observed in a sea voyage lasting longer than twenty hours, but from its action I feel inclined to suggest its adoption as a prophylactic in short voyages—as across the Channel from Harwich to Rotterdam, or from Holyhead to Ireland. If so, these two rules should be followed out: 1. The passenger should prepare for the voyage by taking for two successive nights an antibilious pill which contains mercury and podophyllin. This stimulates the biliary secretion and its evacuation by the alimentary canal. 2. When on board, and if the passage be made by the night service, the passenger should avoid taking any food, but retire to the cabin, undress, lie down, and take an ounce dose of the solution. In all probability there would be a sleep so sound as to prevent any nausea or sickness, and on awakening land would be in sight.

### INFLUENZA.

In my experience of this epidemic I have most faith in prescribing salicylate of sodium (pure) in twenty-grain doses every four hours for twenty-four hours. Copious perspiration follows, and the distressing features of the affection disappear, if there be no complications; but if these be present the salicylate should be abandoned, and therapeutic measures adopted according to the extent and gravity of the case. In ordinary cases, after discontinuing the salicylate, I prescribe for a week four grains of quinine in half a glass of sherry at 11 A.M., and the same quantity of quinine in a whole glass of sherry at 4 P.M. The patient should not go out of his bedroom until the expiration of at least ten days. In cases where the nervous depression is marked even after recovery, it is advisable to order the patient to go for a change to a bracing health resort or to take a short sea voyage.

### PHTHISIS.

Repeated testimony has been borne by almost every observer to the undoubted efficacy of cod-liver oil and the hypophosphite of lime in the early stage of phthisis. The

former gives nourishment to the body, and the latter exercises an alterative influence upon the process of tubercular change. Yet cod-liver oil should not be given by routine, but with definite rules as to its administration. To secure proper assimilation it should be prescribed in a teaspoonful dose at bedtime for three successive nights, then a dessert-spoonful at the same time. On the sixth and seventh days it should be taken in a dessert-spoonful dose after dinner and at bedtime, and afterwards in a table-spoonful dose after each meal. If so prescribed it does not cause eructation or nausea, and the doses may be increased in accordance with the wishes of the patient until the end of the fifth week, when it should be stopped for a week, and resumed. With each dose of the oil five grains of hypophosphite of lime dissolved in a little hot water should be taken. Thus administered, these medicines notably increase the strength of the patient, and returning health is evidenced by increased weight. If circumstances permit, and if the patient be young, a sea voyage is of inestimable advantage in maintaining the progress made to recovery, and if the voyage be to New Zealand and back in many cases the patient's health is established. I firmly believe that the hypophosphite of lime is the only form of hypophosphite of any value in tubercular disease. This opinion was expressed by me in communications to THE LANCET in 1876, when this salt was first introduced to the profession as an efficient therapeutic agent. All my subsequent experience confirms this view, and I do not consider its influence is increased by its combination with the sodium and iron salts.

### CHRONIC CONSTIPATION.

Most purgative medicines, if used for any length of time, require their doses to be increased, and the habit of employing them is engendered. Cascara sagrada, on the other hand, can be prescribed with advantage in diminishing doses, and in time can be omitted altogether. Thus, a teaspoonful of the liquid extract, if given at bedtime, will cause action of the bowels after breakfast, which is accompanied by no griping and no intestinal uneasiness. The next night the dose should be fifty minims, the next forty, the next thirty, the next twenty, and afterwards a ten-minim dose should be taken for eight successive nights. As a rule it may then be discontinued, as the action of the bowels comes on in a natural manner at the same hour of the day.

### ANGINA PECTORIS.

In this affection there is little doubt of the benefit of the inhalation of the nitrite of amyl or of the taking of nitro-glycerine—the latter being preferable for continued treatment. As illustrating this I shall give a short account of a case which came under my observation three years ago. I was called to see a man aged forty-five, whose condition was very pitiable. He was lying propped-up in bed, and complained of difficulty of breathing and intense cardiac pain. I prescribed a hydragogue cathartic, consisting of three grains of calomel and a quarter of a grain of podophyllin, and told him after the medicine had acted to take a tablet of nitro-glycerine twice daily. In the course of two days I saw him again, and found him much better. He has continued under my observation more or less since I saw him first, and can attend to his daily duties as a time-keeper in a large public work. The difficulty he experienced in walking with any ease has diminished by adopting a certain procedure in taking the tablets. His own words are: "There is a remarkable improvement in my health with regard to walking, and all through the tablets. By putting one in my mouth previously to starting to my work in the morning, I am able to walk at my ease to the gate-house without halting. Previously to doing this I had to halt, until the pain ceased, from three to five times, and such has been the case for over two years; I can now walk the distance in less than five minutes, and I have known it to take me twenty. I can now walk from my house to the tram-car without a halt, when it usually took me from five to seven stops."

Glasgow.

MUNIFICENT GIFT.—Mr. E. A. Pearn of Compton Leigh, near Plymouth, has given a mansion and twenty-four acres of land for the benefit of the Royal Albert Hospital, Devonport, and the South Devon and East Cornwall Hospital, Plymouth. On the land he purposes to erect a convalescent home, and will endow it for the joint use of the two institutions named. The gift has been gratefully accepted.

## DISEASE OF THE TEMPORAL BONE.[1]

BY A. J. PEPPER, F.R.C.S. ENG.,
SURGEON TO ST. MARY'S HOSPITAL.

IF I were asked to mention the surgical diseases in which preventable deaths are most common I should cite strangulated hernia, perforation of the vermiform appendix, and suppuration in the mastoid cells. No doubt the majority of cases of inflammation of the middle ear and the surrounding bone tend to spontaneous cure, or at least to such amelioration as to place the sufferers apparently out of danger. I say apparently, because so long as a perforation of the tympanic membrane remains with discharge, however slight, whether continuous or intermittent, there is an abiding cause of a possible fatal issue. How often do we meet with instances of ear disease in which, perhaps, years have intervened between the initial attack and the subsequent accession of acute symptoms—a renewal of the storm with its attendant threatenings. But there is another reason for the delay or neglect, as the case may be, in resorting to early operative interference. I refer to the regional anatomy of the parts affected. The close juxtaposition of the brain, the lateral sinus, and the carotid artery to the area of primary mischief has undoubtedly led the practitioner too often to defer or abandon the only treatment likely to be of the least avail. I cannot too strongly insist that such a reason implied or expressed is wholly untenable, that, in short, patients ought not to be left to a chance recovery when they can almost to a certainty be placed in security so far as life is concerned. The beneficial results offered by operation are not confined to cases where the disease is limited to the middle ear and mastoid cells, for on several occasions consecutive abscess in the brain has been successfully treated.

As regards the causes of inflammation of the petro-mastoid bone, it may be said that with few exceptions the affection is secondary to disease of the middle ear. Primary tubercular caries is comparatively rare, whilst syphilitic caries is much more so. Otitis media is usually the result of (1) some exanthematous fever, notably, scarlatina and measles; (2) disease of the naso-pharynx, such as ulceration and adenoid growths (here the morbid change is due either to the inflammation spreading in the continuity of the mucous membrane of the Eustachian tube, or to obstruction to the escape of secretion from the tympanum); (3) exposure to cold. I will not weary the reader with detailing the sequence of events, which ends in the petro-mastoid bone being involved, but at once proceed to discuss the latter condition, its features, phases, consequences, and appropriate treatment. According to Gruber the various parts of the temporal bone are attacked in the following order of frequency:—1. The mastoid cells. 2. The roof of the tympanic cavity. Here the principal danger to be feared is extension of the disease to the middle fossa of the skull, with meningitis and abscess of the temporo-sphenoidal lobe of the brain as natural consequences. 3. The posterior wall of the meatus. In this case an abscess may form between the bone and the external ear simulating true mastoid abscess. 4. The plate of bone separating the mastoid cells from the lateral sinus, in which thrombosis of the sinus and cerebellar abscess are events to be feared. 5. The floor of the tympanum and posterior wall of the carotid canal. Coagulation in the vein and hæmorrhage from the artery are possible sequelæ. 6. The petrous portion proper involving destruction of the labyrinth.

The above division is rather of pathological interest than clinical significance, for the disease is but seldom limited to the area first involved. I think it may be fairly said that few patients the subjects of chronic mastoid suppuration would lose their lives if the treatment were carried out on rational surgical lines, for even in the worst cases—providing of course that intra-cranial mischief and pyæmia have not commenced—a wide opening and free excavation of the bone by relieving tension and affording a ready escape for discharge are rapidly and surely followed by marked relief from symptoms which disquiet the surgeon and distress the patient. As regards acute cases, where dangerous and too often fatal symptoms supervene closely on abscess formation in the middle ear, there is less time in which to act, for

[1] A paper read at the Harveian Society, Feb. 18th, 1892.

blood poisoning and cerebral mischief are apt to ensue early and develop with great rapidity. Sir W. Dalby says that in this division must generally be placed the unavoidable deaths. Whilst agreeing in the main with his opinion, my own experience leads me to believe that here, too, the mortality is far higher than it should be. Let us take, for example, a case of suppurative inflammation of the middle ear accompanying, or following closely in the wake of, scarlet fever. The tympanic membrane bursts and affords an exit for the pent-up pus. There is a temporary lull in the symptoms, the pain lessens, and the temperature falls. But soon the danger signals are full set again. What can the surgeon do more than use antiseptic injections, apply leeches, and carry out minor details which together make up the orthodox routine of treatment? If the mastoid cells are invaded, as they usually are, there is a resource left which ought at once to be employed—viz., to remove the outer plate of bone and break up the septal walls of the cells. I have practised this on several occasions, and always with complete success. There is no time to wait for fluctuation, œdema, or redness to manifest themselves externally, and there is no occasion for it. Deep-seated aching in the bone is always present; and, moreover, gentle percussion, and even pressure with the finger, suffices to increase the pain even when the superficial soft structures appear, and are in reality unaffected. I cannot lay too great stress on this fact. In cases like the above one has to meet the liability to suppuration in the skull, thrombosis of the lateral sinus, and pyæmia. The disintegration of septic clot in the sinus is a common cause of embolism and metastatic abscess. Thrombosis of the lateral sinus is indicated amongst other signs by œdema and swelling of the side of the neck. Besides, the coagulation is apt to extend along the internal jugular vein, which can sometimes be felt as a solid cord. In such a state of affairs treatment offers little chance of success, but still it should not be abandoned in despair. Given a certain diagnosis of a septic thrombus in the sinus, I would not hesitate to lay it open. The liability to hæmorrhage, immediate and secondary, must be kept in mind. Even should such a disaster happen, it would not be difficult to arrest the bleeding. I have seen the patent sinus entered by a trephine and the patient recover. Touching intra-cranial suppuration, I may here note that abscess in the brain from middle-ear disease is found either in the cerebellum or the temporo-sphenoidal lobe of the cerebrum. It is more common in the former situation, except in very early life, when the reverse obtains. The reasons why cerebral abscess is the rule in young children may be supplied, perhaps, by the following facts:—1. The petro mastoid and squamosal bones only undergo ossific union during the first year of life. Prior to this, suppuration may extend with readiness from the middle ear to the cranial cavity, the pus making its way through the thin intervening plate of cartilage. 2. The mastoid process is not formed until the second year, and the mastoid cells are not developed before the age of puberty. Although the mastoid bone contains in the first years of life a soft, jelly-like tissue which forms a favourable nidus for suppuration, the pus is not locked up, as it were, under pressure in bony cells. The least resistance is through the petro-squamosal suture and along the passage which transmits the large petrosal nerve. Relatively, too, I believe in very early life the plate of bone bounding the posterior fossa of the skull is thicker than that forming the roof of the tympanum.

I now proceed to discuss the principal complications of chronic disease of the petro-mastoid bone, and, first, I will treat of *facial paralysis*. From the long course the facial nerves take through the temporal bone extending from the internal auditory meatus to the stylo-mastoid foramen, and from the fact that there is sometimes a natural breach in the wall of the Fallopian aqueduct on its tympanic aspect, it is somewhat curious that it so often escapes being implicated. Facial paralysis from ear disease is relatively a rare event. It must always be considered a significant one, since we see how readily the inflammatory process may extend along the nerve to the cranial cavity. Symmetrical paralysis from double ear disease I have not seen. Now and then the nerve on the side opposite the bone lesion is affected. This may result from basic meningitis, but far more frequently it is part of a hemiplegia from abscess of the brain. Whether arising directly from the bone disease, or at a later stage from meningitis, the paralysis is as a rule general in its distribution, and not seldom total in quantity. On the other hand, when it participates in one-sided palsy of the body, the muscles of the upper part of the face may be expected to retain their power, wholly or partially. The following case, whilst illustrating this point, may be looked upon as an epitome of neglected ear disease, consequent on naso-pharyngeal adenoid growths.

W. F——, aged nine, was admitted under my care into St. Mary's Hospital on April 14th, 1890. This is his history. From July, 1888, to 1889 he breathed with his mouth open. There was no deafness and no paralysis, and his sight was good. In October, 1889, he began to lose his sight, and shortly after a discharge was noticed from his *left* ear. In December, 1889, a lump formed behind his left ear, which burst in January, 1890. About this time paralysis of the lower part of the *right* facial nerve and of the right arm manifested itself. Three months later the right leg was noticed to be weaker than the left. There had been no convulsions. In March, 1890, he was under the care of Dr. Bond, at the Golden-square Hospital. At that time there was offensive discharge from the left ear, and a sinus over the mastoid bone. He was almost absolutely blind. The pupils were large and equal; they acted but little to light. The ophthalmoscope revealed double optic atrophy. The right arm and leg were extensively paralysed. On April 2nd, 1890, Dr. Bond opened up the mastoid cells, and removed some post-nasal growths. On admission to St. Mary's, Mr. Juler reported double optic atrophy, with a small amount of central vision in the left eye. There was marked deafness in the left ear. The right upper limb was paralysed, mostly in the hand and forearm. The right leg was similarly affected. Both limbs were wasted and colder than on the left side. The urine contained no albumen and no sugar. On May 30th, 1890, with Dr. Broadbent's sanction, I trephined over the left temporo-sphenoidal lobe, and also over the cerebellum, but no abscess was found. Hernia cerebri formed at the former site. It was removed on Sept. 23rd, 1890, after which it re-formed to a less extent. The patient left the hospital unrelieved on Jan. 11th, 1891. A few months later he died, but unfortunately no necropsy was made. This case demonstrates *inter alia* how insidiously disease of the middle ear and temporal bone may progress. Commencing blindness was noticed about the same time as the aural mischief, the special symptoms of which were submerged, as it were, by the graver phenomena. There can, I think, be no doubt that had the mastoid bone been trephined early the lad might have escaped his subsequent troubles.

*Deep suppuration in the neck* may owe its origin to disease of the middle ear or mastoid bone. An abscess forming external to the mastoid process may of course burrow widely and deeply, but I wish now to direct attention especially to a class of cases in which it commences at a greater depth. The local inflammation may extend either through the Glasserian fissure, in which event the temporo-maxillary articulation is very liable to suffer; or it may lead to perforation of the mastoid bone through the digastric fossa. Here the pus, meeting with the juxtaposed occipital artery, is conducted by it to the carotid sheath, along which it spreads. It is prevented from coming to the surface by the superjacent muscles and dense fascia.

J. K——, aged twenty-one, was admitted into St. Mary's Hospital on Sept. 22nd, 1890. He had had purulent discharge from the right ear as long as he could remember, but had suffered no inconvenience until a month before he came under my care. During that time he endured intense pain in the head. On admission his temperature was 105·8° F., accompanied with rigors. There was a tense swelling beneath the right sterno-mastoid muscle. No tenderness over the mastoid bone or temporo-maxillary joint. An incision an inch and a half long was made over the middle of the sterno-mastoid, and a large quantity of fetid pus evacuated. The abscess cavity reached from the base of the skull to the clavicle. His temperature next day was 97·5° F. Two days later a subgluteal abscess formed, probably pyæmic in nature; this was opened and drained. The patient left the hospital well on Nov. 3rd.

*Recurrent external mastoid abscesses*, in consequence of insufficient opening and drainage, may form at long intervals, the patient meanwhile remaining exposed to more serious complications.

E. M——, aged fifteen, was admitted to St. Mary's Hospital on July 16th, 1891. Seven years previously an abscess

formed over the left mastoid process; a second developed in the same situation twelve months since. Both healed completely, and, except for deafness and discharge from the ear, her health was good. Five weeks before admission suppuration again occurred. On the latter date pus was escaping from the meatus and also from a sinus over the bone. She was very deaf in the left ear. The posterior wall of the meatus was necrosed. I scooped out the mastoid, perforated the necrotic wall of the meatus, and passed a drainage-tube from the meatus to the opening made externally. She was discharged cured on Aug. 8th.

*Necrosis of the posterior wall of the meatus* has a special significance, inasmuch as the fungating granulations—sometimes described as polypi—forming around the dead piece of bone block up the passage and hinder the escape of pus from the tympanum and mastoid antrum. So long as the sequestrum remains, although the granulations may be completely removed, fresh ones spring up very rapidly, the patient thus obtaining only a brief respite from pain. Through the kindness of my colleague, Mr. Field, I assisted recently in removing a piece of loose bone from the ear of a lady, which had caused intense agony from the condition just referred to

*Implication of the temporo-maxillary joint* is by no means infrequent in disease of the middle ear. It is usually associated with widespread affection of the mastoid. The inflammation extends through the Glasserian fissure or between the bone and the cartilage of the pinna. There is stiffness of the jaw, inability to open the mouth properly, and swelling over the head of the bone. Owing to the looseness of the articular capsule a quantity of fluid can be accommodated in the joint, and hence fluctuation is often obtained quite readily. It is of the greatest importance not to mistake an abscess working up by the side of the joint for synovitis of the latter. The former is diagnosed by the extreme throbbing pain and tenderness, and by the amount of swelling, which is more diffused than that from a distended capsule. Of course, inflammation of the joint may be purulent, in which case more or less permanent rixity is to be feared. If the synovitis has not passed beyond the stage of serous exudation, it mostly subsides very quickly after an adjacent abscess has been laid open. The following case, for which I am also indebted to Mr. Field, shows the force of the foregoing remarks.

Mr. B—— caught cold five months before he came under my notice, resulting in tympanic abscess, which perforated the drum. About four months later an abscess formed over the mastoid bone. This was opened, but the symptoms generally did not abate. At this time there were difficulty in moving the jaw and a painful swelling over the head of the bone. On laying open the sinus over the mastoid an orifice, just admitting a small probe, was discovered in the bone, from which pus was slowly escaping. I trephined and let out a quantity of matter which filled the antrum and smaller cells. During this procedure the mastoid vein was wounded—an accident of no great moment,—but the bleeding was readily stopped by plugging. Although considerable relief was at first experienced, the pain and swelling about the jaw in a short time became worse. I detected deep fluctuation just in front of the joint, made an incision, and let out pus. A large portion of the zygoma was quite bared of periosteum; nevertheless, the patient made a rapid recovery, and the movement of the jaw became once more painless and free.

*Sclerosing ostitis of the mastoid bone* from chronic ear disease may prevent nature effecting an opening externally, and so increase the danger of suppuration spreading to the cranial cavity.

F. B——, aged about nineteen, deaf from childhood owing to disease of both middle ears. Latterly the pain in the left ear had been greatly aggravated. When seen in consultation with Mr. Field the pain over the mastoid was noticed to be much increased by pressure over the bone, although the soft parts were quite healthy. The pupil on the same side was dilated and fixed. The thick outer plate of the mastoid was removed with the trephine and a drop or two of pus set free. The new bone, which had largely encroached on the antrum, was like ivory. A drain was inserted. A fortnight later, as the pain was not alleviated, further operation was resorted to. With a Marshall's osteotrite the cavity in the bone was enlarged, and deep in the interior another abscess, holding only a drop of pus, was encountered. The pain soon afterwards ceased. The left pupil returned to its normal size. Noteworthy facts in this case are: 1. The temperature was raised but little above the normal. 2. That whereas in general the mastoid cells had been in great part obliterated by the new-bone formation, a tract of rarefying ostitis had absorbed the layer next the lateral sinus, the wall of which could be felt and the pulsation of the brain seen to be communicated to fluid injected into the cavity made by the operation. It is next to certain that had the patient been left to nature either thrombosis of the lateral sinus or cerebellar abscess would have ensued. M'Bride mentions sluggish pupils as a sign of intra-cranial irritation in chronic ear disease. In the case now narrated the pupil only on the affected side was dilated.

Wimpole-street, W.

## SOME REMARKS ON DR. RUFFER'S LAST PUBLICATION ON THE DESTRUCTION OF MICRO-ORGANISMS BY AMŒBOID CELLS.

BY E. KLEIN, M.D., F.R.S.

IN THE LANCET of December 28th, 1891, there appears an abstract of a lecture delivered in the theatre of the Laboratories by my friend Dr. Ruffer, in which he criticises some remarks that I made in my lecture at the Royal Institution in February of last year concerning the insufficiency of Metchnikoff's theory of phagocytosis to explain immunity. It is chiefly these criticisms of Dr. Ruffer about which I wish to make here a few remarks.

On page 1433 Dr. Ruffer refers to a remark of mine as to the presence of phagocytes in the dorsal lymph sac of the frog, being insufficient to explain the immunity of that animal against anthrax after the injection into the lymph sac of the anthrax virus. What I said is this: "It must seem very extraordinary that this—viz., the presence of phagocytes—should be really a true explanation of the refractory state of the frog towards anthrax, considering that the bacilli, like other minute particles, when injected into the lymph sac would be absorbed and brought into the circulation in a few minutes, nay, seconds—at any rate some hours before the phagocytes have got into the lymph sac in *sufficient* numbers to do battle with the bacilli." I have italicised the word "sufficient," because, as will be seen presently, this is the essence of my remark, and it seems to have entirely escaped Dr. Ruffer's attention. Everyone who has worked with anthrax in the frog knows that if into the dorsal lymph sac of this animal, while in the normal condition, a large dose of anthrax material, containing hundreds of thousands of anthrax spores or anthrax bacilli, be injected, no anthrax disease follows, and everybody who has read Ranvier's "Traité Technique d'Histologie" knows that the lymph of the dorsal lymph sac of the frog, like all lymph, contains amœboid leucocytes. The question of importance for the theory of phagocytosis is obviously one of numbers of leucocytes present. Ranvier, who made this lymph the subject of special study, says (*loc. cit.*, p. 149): "La quantité de lymphe que ce sac en contient est très-variable suivant les circonstances: ainsi elle est en général presque nulle, si la grenouille a séjourné longtemps dans un endroit sec." Frogs kept in the laboratory never contain more than a few drops of lymph in the lymph sac, and the number of lymph cells, though great in the microscopic specimen, is insignificant if compared with the enormous numbers of spores and bacilli that can be, and have been, injected into the lymph sac of such frog without producing anthrax. It is therefore quite unnecessary for Dr. Ruffer to tell us that "he has found numerous phagocytes present in the normal lymph sac of the frogs he had examined." The point is not whether there are numerous leucocytes present in the lymph sac—which nobody disputes,—nor whether some of these leucocytes contain the bacilli—which also nobody disputes,—but the question is whether they are present in *sufficient* numbers to eat up and destroy the innumerable host of spores and bacilli injected, and whether the limited number of cells containing the bacilli is at all in proportion to the work. Surely Dr. Ruffer does not really maintain that spores and bacilli are not directly absorbed and carried into the circulation. He cannot mean to suggest that the number of cells containing the bacilli is at any time great, nor that the surplus of the spores and bacilli remain quietly lodged in

the lymph sac till, many hours later, a sufficient number of leucocytes have been attracted to the seat of battle. Similarly, when Dr. Ruffer states "that the absorption of solid particles introduced into the lymph sac of the frog took place by the agency of leucocytes," he does not mean that if he injects a quarter or half a Pravaz's syringe of salt solution containing in fine suspension vermilion granules, all the vermilion granules remain in the lymph sac and are swallowed up by the leucocytes, and that vermilion granules are not carried by the lymph stream directly into the blood. If he does mean all these things, then all I can say is that his statements are contrary to the facts

In connexion with Dr. Ruffer's view that the anthrax spores and anthrax bacilli introduced into the dorsal lymph sac are destroyed by the leucocytes, and by these only, I should like to know what he has got to say to the extended observations of Sanarelli[1] as to the germicidal action on anthrax bacilli of the cell-free lymph of the dorsal lymph sac, inside and outside the lymph sac of the frog.

A second criticism of Dr. Ruffer is this:—"In another part of his lecture Dr. Klein states the cells seem to possess a particular chemical attraction for the bacteria, such as is possessed by certain chemical substances. ..... Now, every experimenter, without exception, has spoken of the bacteria attracting the cells, and not the cells the bacteria." Here also Dr. Ruffer quotes my words in a wrong sense, or rather in a wrong connexion. That he misunderstood them is shown by the statement which he immediately afterwards makes—viz.: "Clearly it is difficult to explain why, if the cells attract the bacteria, thousands of cells should migrate to the spot where micro-organisms are present, whereas if the bacteria attract the cells, the emigration of leucocytes can be readily explained." Dr. Ruffer obviously refers to the phenomenon of leucocytosis produced at the seat of inoculation, whereas I referred to an entirely different matter, as will appear from the following.

Pfeiffer first proved by systematic experiments that certain chemical substances attract bacteria, others repel them, and Baumgarten[2] says that these facts observed by Pfeiffer have probably an important bearing on the movement of both the cells and microbes within the infected human and animal body. Surely it is quite permissible to say that just as certain chemical substances of the bacteria attract or repel leucocytes (see Buchner's recent observations), so also certain chemical substances present in the cells and tissues attract or repel the bacteria. Is it not a well-established fact that the spleen is an organ which pre-eminently seems to attract microbes introduced into the subcutaneous tissue, the lungs, or into the blood? In the case of malaria, relapsing fever, typhoid fever, in anthrax and tuberculosis, is it not the spleen which is the organ, *par excellence*, which seems to attract and to offer the most suitable nidus for the microbes? In the acute exanthemata it is the skin, in hydrophobia it is the central nervous system, and in certain forms of cancer it is the epethelial and endothelial structures. Surely it is permissible to assume that there are present certain chemical substances in these different tissues which act in a "positive chemiotactic" sense on these different microbes, and hence make these tissues the selected nidus for their existence and growth. In the numerous instances of psorospermosis under discussion at the present time, it is chiefly the epithelial cells which are mentioned as the tissues attracting especially these micro-organisms. In artificially induced tuberculosis the tubercle bacilli are not present in the blood, but find in the cells of the spleen of the lymph glands and of the bone marrow the most attractive localities. And it seems to me also justifiable to assume—say, for instance, for the lymph cells of the tonsils—of the Peyer's glands, and similar superficially situated lymphatic structures, that the tissue fluids, being inimical to the existence of bacteria that pass into the tissue from the surface, they (the bacteria) find in the cells some attraction, some chemical substance which suits them, and hence these cells, far from being the enemies of the bacteria, are, on the contrary, their places of refuge, for a time at any rate. This view seems to me just as feasible as Dr. Ruffer's view, that because these cells contain bacteria, therefore they are the chief and only bacteria destroyers. It is well established that in some acute and chronic infectious diseases the specific bacteria are lodged chiefly in the leucocytes or similar cells, in which they grow and which they ultimately destroy. In Koch's mouse septicæmia, fatal in one to three days, the leucocytes of the blood are crowded with the specific bacteria, and by these the leucocytes become destroyed; in bovine tuberculosis, in tuberculosis artificially induced in rabbits and guinea-pigs leucocytes and similar cells are the principal substances in which the bacilli settle, and in which they grow; in the tubercular form of leprosy the nodules are entirely made up of round cells in which the lepra-bacilli grow, and which cells become gradually destroyed by the bacilli; in Koch's Egyptian ophthalmia the pus cells principally contain the bacilli, and by the growth and multiplication of the latter the cells become gradually destroyed; in gonorrhœa the gonococci are principally contained within the leucocytes, and by their multiplication gradually produce disintegration of the cells; in swine erysipelas in the pigeon the liver capillaries contain numbers of leucocytes in which the specific bacilli are very numerously present, and which thereby swell up and gradually disintegrate. Do not all these facts prove that in these diseases it is the cells which attract the bacteria? It is these cells in which the bacteria grow and multiply, and it is these cells which ultimately succumb to the bacteria.

A third criticism which Dr. Ruffer makes, and which I am quite at a loss to understand, is this: "Dr. Klein states that it has been proved beyond question that when the blood of an animal immune against a certain disease was injected into a non-immune animal suffering from the same disease the development of the disease is stopped." I did not exactly say this, but that "it has been shown that if an animal susceptible to a particular disease be first infected with the bacilli causing the disease, and then into such an infected animal the cell-free serum or plasma of the blood of an animal refractory to that disease be injected, the development of the disease in the former animal is stopped or prevented." In saying this I referred in a general way to the well-known results of the numerous and carefully conducted experiments on anthrax published by Ogata and Tasuhara, to those of Behring and Kitasato on diphtheria and tetanus,[3] and I ought now to add the important researches of Tizzoni and Cattani[4] with regard to tetanus.[5] These last-named observers show that the serum of the blood of dogs made immune against tetanus possesses a powerful antitoxic action against tetanus; moreover, quite recently they have actually succeeded in *curing tetanus* in the human subject by the injection of that tetanus—antitoxin. How in the face of all these observations Dr. Ruffer can say "there is not the slightest particle of evidence to show that the serum of an immune animal, when injected into another animal, acts in the way described by Dr. Klein" I must leave Dr. Ruffer to explain.

In conclusion, I should like to draw the attention of the readers of THE LANCET to the recent work by Buchner and his pupils, as summarised by Buchner in the *Centralbl. f. Bact. und Parasit.*, vol. x., Nos. 22 and 23. From this account it is evident that even that last part of the theory of Metchnikoff, to which this latter still clings to—viz., that the destruction of bacteria by the leucocytes *forms part* of the general process of destruction of bacteria in the tissues of a refractory animal—has lost its last foundation. The phenomena on which Dr. Ruffer in his lecture lays so much stress—viz., that in Rauschbrand in the rabbit the local leucocytes and the taking up of the bacilli by the leucocytes is an expression of the bacilli becoming destroyed by the cells, and that these recent observations of his have confirmed him in his "former opinion that the destruction of micro-organisms in living tissues is accomplished by the cells of the body, and by the cells only," receive in Buchner's experiments an altogether different, and it seems to me a more feasible, explanation; it is to the effect that the first and decisive inimical influence on the infective microbes in a refractory animal and in living tissues is due to *the chemical action of the tissue juices*, that this *precedes* the taking up of the microbes by the leucocytes, that this latter phenomenon is entirely dependent on the former, and without the former primary process phagocytosis is impossible.

Earl's Court-square, S.W.

[1] Centralblatt f. Bact. und Parasit., ix., 14, 15, 16.
[2] Jahresbericht, iv. 2, p. 368.

[3] Deutsche Med. Wochenschrift, 1890, No. 49.
[4] Centralblatt für Bact. und Parasit., ix., No. 21; and x., Nos. 2 and 3.
[5] An error occurred in the printed account of my lecture, which error Dr. Ruffer is quite correct in pointing out—viz., that rabbits are not immune against tetanus; it ought to have been stated that the blood, not of immune rabbits, but of rabbits made immune against tetanus, was used for protective inoculation.

# THE RESULTS OF MAJOR AMPUTATIONS TREATED ANTISEPTICALLY

## IN THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE, DURING THE YEAR 1891, AND FOR A PERIOD OF THIRTEEN YEARS AND NINE MONTHS—VIZ., FROM APRIL 1ST, 1878, TO DEC. 31ST, 1891.

BY FREDERICK PAGE,

SURGEON TO THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE; CONSULTING SURGEON TO THE FLEMING MEMORIAL HOSPITAL FOR SICK CHILDREN; LATE EXAMINER IN CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

DURING the year 1891, as will be seen from Table 1, eighty-three major amputations were performed upon eighty-one patients, two males, an adult and a boy, losing two limbs, in each case a thigh and a leg. This is the largest number of amputations performed in a year in the infirmary during the period I have recorded results—viz, from April 1st, 1878, to Dec. 31st, 1891, thirteen years and nine months; and I believe it to be the largest number that has ever been performed in the institution since its foundation in 1751, one hundred and forty years ago. The mortality has been unusually high; for of the eighty-one patients operated upon eight died—9·8 per cent. The high mortality is accounted for by the nature of some of the accidents. Thirty-five of the patients, all males, were operated upon for injuries, and seven of them died, four within thirty hours of the operation from shock, two from blood poisoning, and one from delirium tremens. This is a mortality of 20 per cent. During a period of five years—viz., from 1883 to 1887—one hundred major amputations were performed for injury in the infirmary, and only four patients died. The amputations for disease have been very successful during the past year; forty-six patients were operated upon, and only one died—2·1 per cent. During the four years from 1888 to 1891, 138 major amputations were performed for disease, and five patients died—a mortality of only 3·6 per cent. It will always be exceedingly difficult in a hospital situated like ours to avoid for any lengthened period a comparatively high mortality from primary amputation, so very much depending upon the nature of the accident for which the amputation is performed. How much the mortality from traumatic cases depends upon the nature of the accident is realised by a perusal of the precise cause of the seven deaths which have occurred after amputation for injury during the year 1891.

TABLE I.

*Table of Major Amputations treated Antiseptically in the Royal Infirmary, Newcastle-on-Tyne, during the year 1891.*

| Operation. | Injury. | | | Disease. | | | Total. |
|---|---|---|---|---|---|---|---|
| | No. | Rec. | Died. | No. | Rec. | Died. | |
| Double amputations.. | 2 | 1 | 1 | 0 | 0 | 0 | 2 |
| Hip-joint .. .. .. | 2 | 1 | 1 | 2 | 2 | 0 | 4 |
| Thigh .. .. .. .. | 5 | 4 | 1 | 14 | 13 | 1 | 19 |
| Knee-joint .. .. .. | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Leg .. .. .. .. .. | 10 | 7 | 3 | 6 | 6 | 0 | 16 |
| Ankle-joint .. .. .. | 2 | 2 | 0 | 17 | 17 | 0 | 19 |
| Shoulder-joint .. .. | 3 | 3 | 0 | 2 | 2 | 0 | 5 |
| Arm .. .. .. .. | 6 | 5 | 1 | 0 | 0 | 0 | 6 |
| Forearm .. .. .. | 4 | 4 | 0 | 5 | 5 | 0 | 9 |
| Wrist .. .. .. .. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Totals .. .. .. | 35 | 28 | 7 | 46 | 45 | 1 | 81 |

PRECISE CAUSE OF DEATH.

*Case 1.*—Male aged twenty-nine; died thirty hours after primary amputation through the middle of the right thigh, and of the left leg at the seat of election, from shock. Railway smash.

*Case 2.*—Male aged thirty-two; died twenty-nine hours after primary amputation at the hip-joint, from shock.

*Case 3.*—Male aged fourteen; died twenty-two hours after primary amputation of the thigh, from shock.

*Case 4.*—Male aged thirty-one; died eighteen hours after amputation of the arm, performed fourteen days after a bullet wound of the forearm, from blood poisoning. Patient had septicæmia at the time of the amputation.

*Case 5.*—Male aged nine; died five hours after primary amputation of the leg, from shock. The boy had also a fracture of the pelvis and of the ribs and other internal injuries.

*Case 6.*—Male aged twenty eight; died eight days after primary amputation of the leg at the seat of election, from delirium tremens.

*Case 7.*—Male aged fifty; died seven days after primary amputation of the leg at the seat of election, from blood poisoning. Had been a heavy drinker.

*Case 8.*—Female aged twelve; died eight days after amputation of the thigh for tubercular disease of the knee-joint, from tubercular meningitis.

Table 2 gives the results of major amputations from Jan. 1st, 1883, to Dec. 31st, 1891, during which period I have recorded the precise cause of each death. Of the 527 patients operated upon 38 died—7·2 per cent.; 207 of the patients were operated upon for injury, and 23 died—11·1 per cent.; 320 of the amputations were for disease, and 15 died—4·6 per cent.

TABLE II.

*Table of Major Amputations treated antiseptically in the Royal Infirmary, Newcastle-on-Tyne, from Jan. 1st, 1883, to Dec. 31st, 1891, a period of nine years.*

| Operation. | Injury. | | | Disease. | | | Total. |
|---|---|---|---|---|---|---|---|
| | No. | Rec. | Died. | No. | Rec. | Died. | |
| Double amputations.. | 7 | 4 | 3 | 0 | 0 | 0 | 7 |
| Hip-joint .. .. .. | 6 | 3 | 3 | 14 | 10 | 4 | 20 |
| Thigh .. .. .. .. | 30 | 26 | 4 | 112 | 106 | 6 | 142 |
| Knee-joint .. .. .. | 7 | 7 | 0 | 2 | 2 | 0 | 9 |
| Leg .. .. .. .. .. | 54 | 47 | 7 | 49 | 47 | 2 | 103 |
| Ankle-joint .. .. .. | 21 | 20 | 1 | 93 | 91 | 2 | 114 |
| Shoulder-joint .. .. | 11 | 10 | 1 | 9 | 9 | 0 | 20 |
| Arm .. .. .. .. | 33 | 30 | 3 | 14 | 13 | 1 | 47 |
| Forearm .. .. .. | 31 | 30 | 1 | 27 | 27 | 0 | 58 |
| Wrist .. .. .. .. | 7 | 7 | 0 | 0 | 0 | 0 | 7 |
| Totals .. .. .. | 207 | 184 | 23 | 320 | 305 | 15 | 527 |

Table 3 gives the results of major amputations from April 1st, 1878, to Dec. 31st, 1891, a period of thirteen years and nine months.

TABLE III.

*Table of Major Amputations treated antiseptically in the Royal Infirmary, Newcastle-on-Tyne, from April 1st, 1878, to Dec. 31st, 1891, a period of thirteen years and nine months.*

| Operation. | Injury. | | | Disease. | | | Total. |
|---|---|---|---|---|---|---|---|
| | No. | Rec. | Died. | No. | Rec. | Died. | |
| Double amputations.. | 7 | 4 | 3 | 0 | 0 | 0 | 7 |
| Hip-joint .. .. .. | 6 | 3 | 3 | 16 | 10 | 6 | 22 |
| Thigh .. .. .. .. | 46 | 37 | 9 | 149 | 140 | 9 | 195 |
| Knee-joint .. .. .. | 10 | 9 | 1 | 6 | 6 | 0 | 16 |
| Leg .. .. .. .. .. | 74 | 63 | 11 | 73 | 71 | 2 | 147 |
| Ankle-joint .. .. .. | 25 | 24 | 1 | 109 | 107 | 2 | 134 |
| Shoulder-joint .. .. | 14 | 13 | 1 | 11 | 11 | 0 | 25 |
| Arm .. .. .. .. | 44 | 39 | 5 | 20 | 19 | 1 | 64 |
| Forearm .. .. .. | 39 | 38 | 1 | 31 | 31 | 0 | 70 |
| Wrist .. .. .. .. | 7 | 7 | 0 | 0 | 0 | 0 | 7 |
| Totals .. .. .. | 272 | 237 | 35 | 415 | 395 | 20 | 687 |

The total number is 687, with 55 deaths, a mortality of 8 per cent; 272 of the operations were for injury, with 35 deaths—12·9 per cent.; 415 were for disease, and 20 patients died—4·8 per cent.

Newcastle-on-Tyne.

# ONE-HOUR CRISIS IN PNEUMONIA.

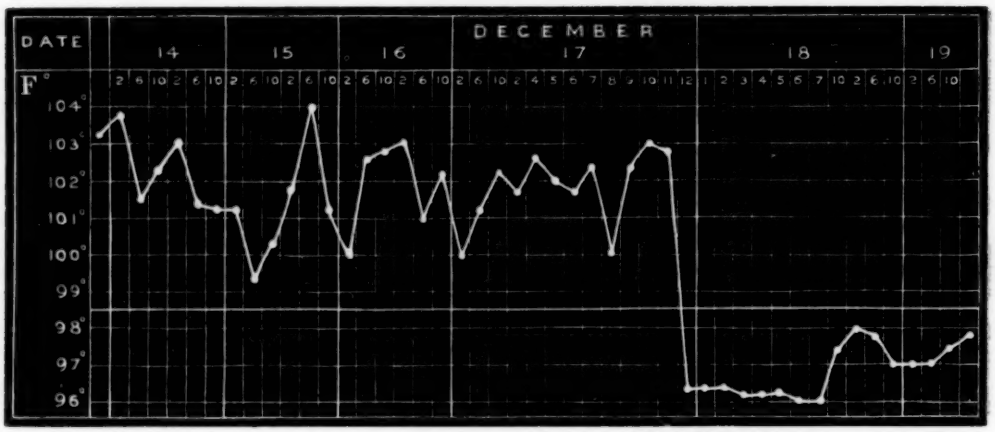
BY SAMUEL WEST, M.D.,

ASSISTANT PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL; SENIOR PHYSICIAN TO THE ROYAL FREE HOSPITAL.

ABRUPT as the crisis is in pneumonia, it proves on analysis to be hardly so sudden as it seems. In most cases the temperature does not reach the normal until after some hours. The average of one hundred cases, which I examined with especial reference to this point, proved to be twelve hours.

A crisis complete in eight hours was not frequent. The shortest in this series was of six hours' duration, and the shortest on record, so far as I know, lasted four hours. The present case is, I believe, unique, for in it the temperature fell from 103° to 96° in the space of one hour. I had been for some time interested in the fall of temperature during the crisis of pneumonia, and had given instructions that the temperature should in some of my cases be taken every hour, and it is to this that the observation is due. The patient was a lad of nine years of age, who had been in good health, except that he had once or twice in his life had a fit. On Dec. 13th, having been previously as well as usual, he was suddenly seized with a fit, and became very ill. Remaining unconscious and growing feverish, he was brought to the hospital, and was admitted. He was found with a temperature of 103°, pulse 110, and respiration 52, and proved to have left apex pneumonia. During the next twenty-four hours he had two more fits and remained deeply unconscious and delirious. For the next two days the patient continued in much the same state of delirium and fever, and the signs at the apex developed further. (See chart.) On the 17th—i.e., the fifth day of the disease—I gave orders that the temperature should be taken every hour. At eleven o'clock that evening the temperature was 103°, and at twelve o'clock 96·3, having thus fallen nearly seven degrees within the hour. The nurse stated that at eleven o'clock the patient woke up suddenly in what she thought to be a fright, and seemed to be extremely ill. At one o'clock when the house physician saw him, and confirmed the temperature taken by the nurse, the lad was sweating profusely, was less delirious, and seemed to be much better. The next day he was convalescent. Bronchial breathing continued until the 24th, after which the physical signs rapidly cleared up and he was soon quite well. If the pulse- and respiration-rate be followed, it will be seen that the crisis was preceded, as it so often is, by a drop in the pulse-rate, accompanied in this case by a drop in the respiration-rate also —16th: Pulse 120, respiration 60.—17th (morning): Pulse 96, respiration 56; evening, pulse 80, respiration 36 —18th: Pulse 68, respiration 32 —28th: Pulse 80, respiration 24. On leaving the hospital the pulse was 70 and the respiration 20.

A fall in temperature so sudden as this must be very rare; still, if the temperature can rise as suddenly as we know it does, there is no *a priori* reason why it should not fall as quickly. I have seen the temperature rise from normal to 108° in the course of twenty minutes. This occurred in a man of about thirty-five, upon whom a catheter had been just passed. Except for the stricture he was not supposed to be unhealthy. He died three days later, and proved to have granular kidneys. The physical difficulties of raising ten stone weight of living tissue ten degrees in twenty minutes are very considerable, and seem to require something almost of the nature of an explosive chemical decomposition, nor are the difficulties much less of cooling a weight of six stone of living tissue seven degrees in an hour. If the sudden rise seems to require some chemical decomposition, the sudden fall would seem to require the re-forming of some complex substance which had been previously split up. Rare as are the instances of such rapid rise and fall of temperature as those referred to, still account must be taken of them in any theory of fever which is to satisfy all the facts of the case.




Wimpole-street, W.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### A CASE OF PERITYPHLITIS.

BY WM. TIPLADY, L.R.C.P., L.R.C.S.ED., L.F.P.S.G., &C.

ON Oct. 1st, 1891, I was called to see a child aged six years. On arrival I found the child very ill. Temperature 103°; pulse 120. Tongue dry, the knees drawn up, and vomiting incessantly, with pain in the umbilical region. Three days previously the patient had been riding on the back of an older girl, who had slipped and fallen backwards; hence our little patient had suffered from the fall and the weight of her companion as well. The fall had caused severe injury; for there were faintness, vomiting, and pain, which had never ceased till I was called in. On examination I could not make out any invagination of the bowel. There were no bloody evacuations, and no tumour could be detected; but there were intense pain, localized in the umbilical region, and tenderness so great that even the bedclothes were not permitted to touch the painful part. The effort to extend the legs from their flexed position caused great increase of the pain, and there was uncontrollable vomiting and constipation. Perityphlitis was diagnosed, caused by the fall.

The treatment consisted in enemata of warm water, which were successful in relieving the constipation, liquid nourishment, fomentations with turpentine, absolute rest, and opium in large doses. For a few days the patient remained more or less in the same condition, and the treatment was continued; but on Oct. 8th the patient was certainly worse in every respect. There was now diarrhœa, with a peculiarly fetid odour, and severe pain. Temperature 104°, pulse 130, tongue dry, and teeth covered with sordes. The abdomen was very tympanitic, respiration 50 and greatly embarrassed, and signs of collapse and approaching death. As a last resource, and the only hope in this desperate condition, I decided to open the abdomen in the median line, although the prospect of success was small. Hence a median incision was made, and upwards of a pint of pus with a peculiarly fetid odour was found. Evidently perforation of the bowel had taken place, for after pus fæcal matter came away freely, and continued to do so for some days. The whole cavity was well washed several

times daily with pure warm water. No drain was employed, but the wound left open, which was dressed with carbolised lint made into thick pads, and kept in position by a broad binder. The temperature fell, pulse improved, the pain disappeared, and, though the patient continued in a serious condition for a few days, improvement followed, and an uninterrupted and complete recovery took place.

Coupar Angus, Perthshire.

## THE EFFECTS OF INFLUENZA UPON THE MIDDLE EAR.

By J. WALKER DOWNIE, M.B.,

FELLOW AND EXAMINER IN AURAL SURGERY FOR THE FELLOWSHIP OF THE FACULTY OF PHYSICIANS AND SURGEONS, AND SURGEON TO THE THROAT AND NOSE DEPARTMENT OF THE WESTERN INFIRMARY, GLASGOW, ETC.

SIR WM. DALBY, in his "Note on the Effects of Influenza upon the Middle Ear' in THE LANCET of Feb. 20th, ends by saying that "a person with healthy ears has little to dread from influenza so far as this mucous surface [lining membrane of middle ear] is concerned; but it may become a serious trouble to one whose ears have formerly been the seat of inflammation." I fully agree with the latter portion of this opinion, founded by Sir William Dalby on his experience. Several cases similar to some of those described by him have been under my care, where an ear at one time the seat of inflammation, and bearing evidences of the inflammatory process—impairment of hearing, perforation of membrana tympani, &c.,—and which for many years had remained quiescent, again became acutely inflamed, and in some cases with markedly purulent discharge, as the result of influenza. The first part of the summary is not, however, according to my experience. We might suppose that those who have had scarlet fever and measles without suffering from tympanal inflammation might hope to escape such a complication when affected by epidemic influenza. But such is not according to my observation. I have lately had several cases in dispensary practice and in private of adults who previously had been free from any affection of the ears, but who during or immediately subsequent to an attack of influenza had acute middle ear suppuration. In all cases one ear alone was affected; in only one had I the opportunity of perforating the membrane, as in the others the membrane had been ruptured by the pent-up muco-pus very early. In the majority the ear became involved as the fever was abating. From reports I do not think that in Glasgow and neighbourhood influenza has been so general or so severe in character as experienced in London and other localities, yet I have seen a considerable number of cases of middle-ear inflammation following influenza in those who formerly had no "ear weakness," and thus I would take exception to Sir William Dalby's first conclusion, "that those with healthy ears have little to dread." Apart from implication of the middle ear, there have been several cases where symptoms closely resembling those associated with Ménière's disease have followed an attack of influenza. Those which came under my notice were associated with other symptoms pointing to the involvement of other nerve centres, but in one where deafness, giddiness, and ringing in the ears were the most marked signs, these disappeared as convalescence progressed.

Glasgow.

## CHRONIC ARSENICAL POISONING.

By W. HARDING, M.B,

COUNTY ASYLUM, BERRY WOOD.

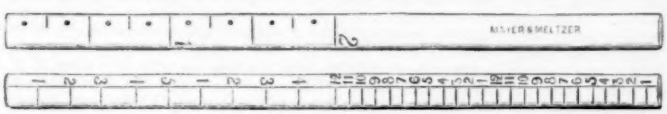
A GOOD example of chronic arsenical poisoning on a large scale occurred in this asylum, and a short account of it may be both interesting and instructive. In the endeavour to make the wards of an asylum bright and cheerful, and to do this at as little expense as possible, it is not improbable that the nature of the colouring materials used may be overlooked, and that some of the gastric and intestinal disorders which disturb the peace of mind of medical superintendents may be cases of arsenical poisoning. For a long period the nurses here were in poor health. First one and then another was laid down until, within a few months, nearly every nurse on the staff had been, or was, under medical treatment. Headache, neuralgias, gastric derangements, loss of appetite, constipation or diarrhœa, irritation of eyelids, anæmia—these were the chief symptoms complained of. Drugs did not appear of much avail, but a holiday had a marked effect for good. At last one nurse had the eye symptoms in a more pronounced form, and suspicion was aroused. In each nurse's room was a green baize curtain, used as a covering for dresses &c. A portion was taken and examined. It was found to be impregnated with arsenic to an astonishing extent. These curtains were removed; the rooms freely ventilated; medical treatment was stopped: the symptoms disappeared, and, though some months have elapsed, have not returned. The baize was similar to that used for covering doors &c., and was obtained from two manufacturers.

Berry Wood, near Northampton.

## RULE AND SCALE FOR USE IN TREPHINING THE SKULL IN CASES OF AURAL DISEASE.

By H. MACNAUGHTON JONES, M.D., F.R.C.S.I. & ED.

IN operating recently in some cases of mastoid disease it struck me that a four-inch circular rule, marked in fractions of an inch, which the surgeon might carry in his pocket-case, would be of use in opening the skull, whether the mastoid antrum, the lateral sinus over the cerebellum, or the temporo-sphenoidal lobe. Also, that if he had with this a scale which would afford him an immediate guide to the exact spot on which to place the pin of the trephine, it would be of great value in assisting his memory in cases of emergency. Accordingly I had this rule and thin scale made of ivory by Messrs. Mayer and Meltzer as shown in the engraving.




The rule is one-fifth of an inch in its largest diameter, and four inches in length, and is marked in fractions of $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{12}$ of an inch. The thin flat scale contains on one side the guides to trephining the skull, as laid down from the careful and exhaustive investigations of Dr. Ambrose Birmingham.[1] On the reverse side are the explanations of the marking. Such a rule and scale can be used not alone to ascertain the relative distances from the meatus, but also to guide the surgeon as to the depth to which the trephine is carried—an important point, as shown by Dr. Birmingham, in opening the antrum, not alone with regard to the lateral sinus, but also from the proximity of the external semicircular[2] canal, "which is in some cases not more than seventeen millimetres from the surface."

Harley-street, W.

GUIDES TO TREPHINING THE SKULL (*Birmingham*).

L.S. = $1\frac{1}{2}$ in. behind M. × level with upper border.
T.S.L. = $1\frac{1}{4}$ in. behind M. × 2 in. above it.
M.A. = $\frac{1}{12}$ in. above level of and behind m.; depth $\frac{3}{4}$ in. to $\frac{3}{4}$ in.
C. = 2 in. behind M. × 1 in. below R.B.L.

EXPLANATION OF MARKING.

| | |
|---|---|
| L.S. Lateral Sinus. | M. Centre of Bony Meatus. |
| T.S.L. Temp. Sphen. Lobe. | M.A. Mastoid Antrum. |
| C. Cerebellum. | R.B.L. Reid's Base Line. |
| m. Superior Margin of Bony Meatus. | |

[1] Paper read before the Academy of Medicine
[2] Dublin Journal of Medical Science, Feb. 1891.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## SEAMEN'S HOSPITAL, GREENWICH.

### TWO CASES OF COMPOUND SEPARATION OF THE SUPERIOR EPIPHYSIS OF THE HUMERUS.

(Under the care of Mr. W. JOHNSON SMITH.)

THESE two cases of compound separation of the upper epiphysis of the shaft of the humerus exhibit examples of a rare surgical injury. The upper epiphysis, including the two tuberosities, is not united to the shaft until the age of twenty, and it is not very uncommon to meet with simple divulsion of this epiphysis in the accident wards of our large hospitals below that age. The treatment of this injury is admittedly a difficult one, probably the most difficult of those affecting the upper end of the humerus. In a case reported by Dr. F. W. Murray he found it necessary to excise three-quarters of an inch of the shaft, and Lange has made known a similar case. Mr. Johnson Smith's cases show the amount of violence necessary to produce compound separation of the epiphysis and the good results which may be obtained by treatment. The ultimate result in the first case is especially noteworthy; for although it appears that nearly two inches and a half of the shaft were excised, sufficient new bone was formed from the periosteum which remained, and from the separated ends, to compensate for about one inch and a half of this, and form a bone apparently perfect.

*Compound fracture of the right humerus at the junction of the shaft and the upper epiphysis.*—John F——, an Irish boy aged fourteen, was admitted on August 18th, 1891, with an injury to the right shoulder, complicated by protrusion of bone through a wound in the axilla. All that could be learnt as to the cause of this injury, which had occurred about half an hour before admission, was that the right sleeve of the patient's coat had been caught in some machinery, and that the arm had been violently wrenched. The boy when first seen in the ward was pale and collapsed. The injured arm was abducted and rotated outwards. There was much swelling over the outer side of the shoulder. In the outer boundary of the lower third of the axilla there was a transverse wound about two inches and a half in length, through which protruded the upper end of the shaft of the humerus detached from the head. This protruded portion of bone, which was two inches in length, was completely denuded of periosteum. The upper surface, which was also quite bare, was even over its anterior third, then rose into a small rounded elevation, and shelved off obliquely to the posterior surface of the bone. The anterior half of the surface was smooth, and presented a continuous layer of compact bone tissue, whilst in the posterior half the spongy tissue was exposed, as if a small portion of the upper end of the shaft had been broken away. There was no bleeding from the wound at the time of admission, and the patient's clothes were but slightly stained by blood. On examination of the seat of injury, whilst the patient was under the influence of ether, it was found that the protruded end of the humerus had passed between the median and ulnar nerves, and that one surface of the bone rested upon and firmly compressed the main artery. The denuded portion of the shaft of the humerus was thrust through the wound in the axilla and sawn off. The detached portion from which the periosteum had been stripped away measured two inches and a half in length. The shortened end of the shaft then fell back into the axillary space, and rested very near to the head of the bone. The capsule seemed to be intact, and no orifice could be found leading into the joint. As there was much swelling in front of the shoulder, it was found impossible to make out whether or not the long tendon of the biceps had been ruptured. A drainage-tube having been thrust to the bottom of the wound, this was closed by sutures, and the seat of injury covered by a large wood-wool pad. A firm pad was placed in the axilla, and the upper limb bandaged to the side of the chest.

The patient progressed favourably after the operation. During the first three weeks the recorded temperature was usually normal and never higher than 99·5°. The wound healed slowly, but without any discharge of pus. The movements of the arm were much restricted for some weeks, but when the boy was discharged on Oct. 13th were quite free. He could then lift the limb a little above the level of the shoulder and move it to the full extent in the forward and backward directions. The movements of rotation were much restricted.

On Jan. 12th, 1892, the patient was again seen at the hospital. The movements of the right arm were then quite free in every direction, and this limb, the boy asserted, was as strong and useful as the left one. There were no signs of muscular atrophy, and no appreciable difference could be observed in the thickness of the two limbs. Repeated measurements were made of both arms from the tip of the acromion to the external condyle, but shortening of not more than one inch could be made out on the right side. The right shoulder was rounded, and did not differ in external appearance from that on the opposite side. There was clearly firm union between the head and the shaft of the bone. The boy had since the middle of November earned eight shillings a week by manual labour, consisting mainly in his moving heavily laden wheelbarrows.

*Distortion and uselessness of arm after compound fracture through the upper epiphysial line; operation.*—W. L——, aged eighteen, a Danish seaman, was admitted into the Seamen's Hospital on Jan. 28th, 1891. On Nov. 16th, 1890, the patient fell from the topsail yard on the deck, injuring his head and left shoulder. He stated that there was a large wound in front of the joint, through which protruded a long piece of bone. This in the course of the voyage, which lasted till Jan. 26th, gradually fell back into the wound, and was covered over by scar. There was no medical man on board the ship, and the patient was treated simply by rest and the application of ointments to the wound. At the time of the patient's admission the left upper limb as compared with the right was wasted and cold. He could move the limb freely at the elbow and wrist, but the movements of the shoulder were much retarded. He could move the elbow away from the side of the chest to the extent only of about an inch and a half. The length of the left arm, measured from the acromion to the external condyle, was eleven inches and a half; that of the right arm twelve inches and three-quarters. In front of the shoulder, beginning about two inches below it, was a broad, irregularly shaped cicatrix, measuring three inches in the vertical direction. Immediately beneath this was a prominent hard projection, formed by the upper end of the shaft of the humerus displaced inwards and forwards. The upper end of this portion of the bone, which had evidently been detached from the head, was smooth and slightly rounded. The head of the humerus seemed to be in its normal position. After attempts had been made without success to restore the free action of the shoulder-joint by passive movements, ether was administered on Feb. 17th, and the prominent portion of bone exposed by a vertical incision about four inches in length. The anterior two-thirds of the upper end of the shaft presented a free surface, which was quite flat and smooth. The posterior third, on the other hand, was united to the anterior and inner portions of the upper segment of the humerus, and the posterior and outer surfaces of the shaft near its upper end had contracted firm osseous union with a long piece of bone continuous with the head or the anatomical neck. The union between the two segments of the humerus having been severed by bone forceps and a portion of the posterior spine of bone removed, the upper end of the shaft was applied to the under surface of the head and fixed in position by a loop of thick wire, and also by an ivory peg driven through the anterior surface of the shaft into the cancellous tissue of the upper segment. The wound, having been drained and closed by superficial sutures, was covered by cyanide gauze and a large pad of wood-wool. The patient did well after the operation, and was discharged on May 17th, quite free from any deformity in front of the shoulder, which joint the patient could move very freely, and, according to his own report, as well as that on the right side. In a letter written in August last he stated that he had been at work for some time as a seaman, earning £6 a month.

## YORK COUNTY HOSPITAL.

### CEREBRAL ABSCESS SECONDARY TO EAR DISEASE; TREPHINING; DEATH.

(Under the care of Mr. JALLAND.)

THE symptoms pointing to the presence of pus in the temporo-sphenoidal lobe were very few in this case, some of the more important being absent. During the first few days after admission the restless, excited condition of the patient prevented any examination of the discs, and when examined shortly before operation nothing abnormal was noted. The case illustrates well a sequence of events commonly found—chronic disease of the middle ear, with discharge of purulent nature, the formation of a polypus obstructing the meatus, caries of the temporal bone, and cerebral abscess. The marvellous way in which respiration returned after having ceased for some time, as the pus was evacuated, was the cause of surprise to those who were present at the operation. As permission was only obtained to examine the head, it is not possible to say exactly to what extent the fatal result must be attributed to cerebral abscess or may have been due to other disease. For the notes of this case we are indebted to Mr. J. B. Lendrum, house surgeon.

R. C——, aged nineteen, was admitted into the York County Hospital on Jan. 16th, 1892. The patient first came to the hospital on Dec. 17th, 1889, with otorrhœa and a history of deafness and otorrhœa for ten years. He was treated with injections of boric lotion. Then his hearing was: right ear, 1½ in.; left, 1½ ft. He remained under treatment for five weeks. He came again on Jan. 12th, 1892 (Tuesday), with a fresh attack. Two days later he complained to his parents of great pain over the right side of the head, which increased, and on Saturday about noon he became delirious, and seemed to have convulsions of some nature, not confined to any special part of the body. He was admitted at 7 o'clock P.M. the same day (Jan. 16th). His temperature was 99·4°, pulse quick and full. Patient sensible, but he lay in a condition of "cerebral irritation," on the left side, with the knees drawn up. He complained greatly of pain over the left side of the head and across the brows. Tenderness on percussion over the left side of the head; otorrhœa; pupils slow to reaction of light, but not markedly abnormal. The attitude of general flexion found to be the patient's usual attitude in bed. Temperature at 10 P.M. 102°.

Jan. 20th.—For the past three days patient has been much in the same irritable condition; temperature at an average of 99°; pulse varied from 82 to 72; respiration 24 to 16. Blister ordered to be applied over mastoid process. Provisional diagnosis of meningitis. In the afternoon the temperature rose to 101°, but fell at 10 P.M. to 99·4°.

21st.—Temperature varied between 99·4° and 100·8°; pulse 64; respiration 18.

22nd.—Patient felt much better, was quite rational, had slept well, and the pain was not marked; appetite good; wished to get up. Pulse fell to 54; temperature between 98·8° and 99·2°.

23rd.—Temperature between 98·8° and 97°. At night patient complained greatly of pain along the back of the neck, sitting up in bed and crying out loudly at intervals. The pulse dropped to 48; temperature 97°. Had a quarter of a grain of morphia given early in the evening; at 12.30 P.M. another sixth of a grain. Slept lightly afterwards from 4 A.M. (Jan. 24th) to 7 A.M.

24th.—About 7 A.M. the patient began to get restless, and developed a divergent squint in the right eye for a short time, but at 9 A.M. had passed into a semi-comatose condition. Pupils of normal size, insensible to light. Slight reflex in orbicularis palpebrarum on pinching the cheek. Breathing rather stertorous; patient lying on his back. At 10.30 he was seen by Mr. Jalland, who recommended trephining. Temperature 96·4°; pulse 70.

At 12.30 the operation was performed under chloroform, as reflexes to pain were not abolished. Crucial incision, half-inch trephine applied one inch and a half above and half an inch behind the meatus auditorius externus. While this was being used the patient suddenly stopped breathing and became very cyanosed. The pupils became widely dilated. The chloroform was stopped and artificial respiration done. Ether injected subcutaneously, and an amyl nitrite capsule used. There was a great quantity of mucus at the back of the pharynx. The heart, which was beating vigorously at the early stage of the cyanosis, gradually became weaker. Respiration not being resumed, it was decided to continue the operation, which was done while artificial respiration was carried on. A fine exploring needle was passed through the dura mater rather backwards into the brain, and between one and two ounces of very fetid pus came out. Gradually natural respiration returned, so the artificial respiration was stopped after twenty minutes. The pupils became much more contracted, the right being still the larger. A small drainage-tube was passed into the abscess cavity in rather a posterior direction, and the skin stitched up. Dry dressings were used and 10 minims of ether given hypodermically. At 3 P.M. the patient was sleeping; both pupils were equal, and contracted; corneæ sensitive. He had expectorated about half an ounce of mucus. Pulse rather jerky, but strong—102 to the minute. Temperature 97·4°. 9 P.M.: Wound dressed. No purulent discharge; no fetid odour; wound looked well. Temperature 100·2°. 12 P.M.: Temperature risen to 100·8°. Pulse very rapid, 140 to 160. Respiration quick, 44. Mucus had again accumulated at the back of the throat. Patient sleeping with eyes half open. Corneal reflexes and sense of pain present. Unable to swallow; suppositories and enemata given.

25th (12 noon).—Temperature dropped from 102° to 100·8°. Pulse still 140–160. Right pupil again larger than left. Eyes wide open, and seem to be attracted by an object held in front of them. Patient mumbled something inarticulate on being spoken to. A polypus was removed from the right auditory canal and the canal syringed. 6.30: Stitches removed. A trocar was put straight in at right angles to the surface, and some fetid pus drawn off. Slight immediate improvement in condition of breathing. 7 P.M.: Patient quite comatose. Pulse hardly perceptible; heart still feebly beating; respiration very slow, shallow, laboured, and irregular—not Cheyne-Stokes type; temperature 105°. 7.30: Death from asphyxia.

*Necropsy.*—Venous congestion of pia mater over whole of brain (asphyxial?), no meningitis, no local adhesions of pia to dura mater. Perforation below right temporo-sphenoidal lobe, size of sixpenny-piece, in communication with, but not adherent to, a much smaller perforation in the dura mater on the anterior surface of the petrous bone. Orifice at side of temporo-sphenoidal lobe due to drainage-tube healthy. An abscess in temporo-sphenoidal lobe, size of small hen's egg.

# Medical Societies.

## PATHOLOGICAL SOCIETY OF LONDON.

### *Phagocytosis.*

THE adjourned discussion on Phagocytosis was continued on Tuesday, March 1st, Sir George Murray Humphry, F.R.S., President, in the chair.

The discussion on Phagocytosis and Immunity, which was adjourned from the last meeting, was resumed by Dr. J. SYER BRISTOWE, who approached the subject from a clinical point of view. He showed that the resistance of the body to the invasion of infective diseases was provided for in various ways—(*a*) mechanical, as the opposition of the skin and mucous membranes; (*b*) by inflammation, with subsequent encapsulation or suppuration; (*c*) by active warfare or phagocytosis; (*d*) by unfitness of soil &c. With regard to *c*, he agreed with Dr. Burdon Sanderson's position as stated at the last meeting. Should the infective principle succeed in getting past these first barriers they would enter the system along the bloodvessels or more commonly along the lymphatics as far as the first group of glands. He thought that cure occurred by the infective principle getting beaten at the mucous membranes or at the lymphatic glands, but these modes of spontaneous cure would not include the cure of the exanthemata after their generalisation, and it was in these cases especially that immunity most frequently arose. He then contrasted various types of infective diseases, taking tubercle, diphtheria, typhoid fever, and small-pox as types of the different varieties. Local skin tubercle or lupus, instead of producing general tuberculosis, seemed to prevent it. In diphtheria and typhoid fever the chief symptoms were associated with the local lesions rather than with the generalised poison, which as a rule produced its effects after the subsidence of the local lesions. With small-pox and the other exanthemata the conditions were

wholly different. Taking inoculated small-pox as an example, the poison appeared to be developed for nine days with formation of the pustule and enlargement of neighbouring glands, then the generalised condition set in with eruption on the third day. Immunity seemed to be acquired in the earlier stages of the disease, as it was remarkable that whilst the pocks were developing the poison from them was not absorbed by the body, probably the pocks were really cut off from communication with the rest of the body by phagocytosis, and the inflammation which surrounded them. By vaccination the generalised disease that was produced and which gave immunity was comparable to the invasion period of small-pox, but he could not say how the immunity was caused. He suggested that it might be possible to avoid the local ill effects of vaccination by injecting the lymph deeply into the tissues or into the glands.

Dr. WILLIAM HUNTER opened his remarks by pointing out the essential difference between phagocytosis and the "humoral theory," the one attributing the defensive power of the body against micro-organisms to cells, the other to the serum of the blood and other fluids. To establish the second theory it was insufficient to employ destructive criticisms against the first, as had been attempted. The arguments adduced arranged themselves in two groups: (1) those affecting the inherent probability of either theory, and (2) those affecting the accuracy of data. The chief principle involved was that one form of protoplasm should be able to take up another weaker form and destroy it. It was a matter of common inference that one immune individual had some new power enabling him to overcome micro-organisms gaining access to his blood, and it had been the practice of late to express this condition in terms of cells instead of in terms of individuals. He urged that no new property of cells was insisted on, and that in his opinion it was more logical to attribute these powers to cells than to the fluids of the body. Apparently the most offending claim of the new doctrine was in elevating special cells to this important function. This, however, commended the theory to his acceptance. Acquired immunity consisted, he thought, in an alteration in the constitution and action of the cells of the body. And he quoted experiments which tended to show that certain substances which appeared to exert much influence on the blood plasma did so really only through the medium of the spleen cells, and it was a remarkable fact that an animal could tolerate double the dose of an ordinarily fatal bacterial poison after removal of this organ; and he argued that if the spleen had such an important influence, it was highly probable that cells in the blood had the same. He thought that the arguments adduced in favour of phagocytosis added much to our knowledge with regard to immunity, and afforded the best working hypothesis, whereas the humoral theory added practically nothing, and was based on a great deal of assumption. Photo-micrographic slides were exhibited which were demonstrated to illustrate the effect of chemiotaxis, as shown by the varying quantity of leucocytes entrapped in shavings of sponge, soaked in certain toxic agents, and inserted under the skin.

Dr. MARTIN then spoke of natural and experimental immunity, indicating that the latter alone in which conditions were regulated and controlled would bear accurate investigation. He thought that anthrax which had been most completely worked out afforded the best indications. With this it was well known that, after vaccination with an attenuated virus, a sheep subsequently inoculated did not die. Was the reply to this the statement that the leucocytes so altered killed the bacilli introduced? He had shown that the chemical products of the attenuated bacilli were identical with those of the virulent ones, both as regards albumoses and albuminoids. On the other hand, he had found that whereas the virulent bacilli flourished in a suitable medium, the attenuated ones dwindled and died, and also that the products of the latter were less in quantity than of the former, the difference being one of *degree* rather than of *kind*. Both depended for their action on their chemical products, and the paradox was presented that the attenuated organism prevented the action of the virulent one, though giving rise to the same products. The explanation of this was that injection of the attenuated virus accustomed the animal to the chemical poison in a manner similar to that known in connexion with poisonous drugs. In pursuance of this idea Dr. Martin quoted experiments showing that the injection of ten milligrammes of the albumose products of anthrax growth preceding the insertion of one cubic millimetre of "splenic mash" enabled the animals to live four days, and a half, the "controls" not surviving twenty-four hours. In another series, in which the bacterial products and "splenic mash" were mixed together and injected, the animals lived twenty days, and did not then show signs of disease except in the spleen, the effects being regarded as an imperfect imitation of those attending an attenuated virus. It seemed that the chemical products of these micro-organisms remained a long while in the body; for, though the fever attending a single dose of anthrax albumose lasted only five days, the animal went on wasting for from ten to twenty-four days. As to why the micro-organisms did not develop in immune animals, it could hardly be supposed that the products of previous vaccination remained in sufficient quantity to hinder the growth of the fresh bacilli. And it was far more reasonable to suppose that these products exerted a profound influence on the blood, which supplied the pabulum on which the organisms subsisted. In this connexion, he drew attention to the remarkable sensitiveness of bacilli to the culture medium, the micro-organisms requiring a proteid capable of digestion—salts, including phosphates of sodium, calcium, and magnesium, and sodium chloride,—and being unable to thrive either in the presence of an excess of phosphates or deficient sodium chloride. In the body it was the blood which supplied this medium, the solid tissues not being adapted for their development, possibly because of the non-suitability of their constitution in these respects. It could hardly be stated yet what actual changes the toxic substances produced, but it seemed pretty evident that they resulted in immunity. With regard to the contest between leucocytes and bacteria, it was one between nucleated protoplasm and protoplasm capable of producing a chemical poison. The experiments which had been performed were, he thought, inconclusive, and those whose effects had been exhibited by Dr. Hunter would bear quite a different explanation. There was injury to tissues, and the albumoses themselves were capable of exciting inflammation without attributing to them special "chemiotaxic" powers.

Dr. WRIGHT referred to Wooldridge's work in connexion with "chemical protection" afforded by the injection into the blood of crushed thymus or testis, and which he attributed to the action of tissue fibrinogen. Experiments had been made which showed that anthrax subsequently introduced had a very modified effect, so that such animals frequently survived. Want of uniformity in these results had been due to defective methods of sterilisation. The idea of chemical protection and the employment of tissue fibrinogen had been taken up by Hankin, who attributed to it bactericidal power. He also obtained a body—the so-called alexine—from the spleen of the white rat, believed to be immune against anthrax, which he injected into guinea-pigs previous to inoculation with anthrax, with the result that four survived and in two life was prolonged as compared with "controls" out of six. The experiments had been repeated with similar results. This "alexine" was apparently the same as Wooldridge's tissue fibrinogen, in which anthrax was capable of developing. An examination of blood after injecting tissue-fibrinogen showed that the number of white corpuscles was at first diminished, and then increased. The preparation "nuclein," an apparently similar body, was known to increase white corpuscles 40 to 50 per cent. in an hour. The idea of producing artificial leucocytosis was applied, and found to prolong life in cases infected with anthrax. These bodies should be regarded as *cell stimulants*, and though at first employed for their direct effect on the bacteria on the humoral theory, really supported that of phagocytosis.

Mr. J. G. ADAMI said that for considerations of brevity perhaps the best method of attacking this subject of immunity was to start with the best and most complete series of observations in the case of one disease, observations that were both recent and reliable, and then accepting the facts so gained, to observe how they opposed or confirmed the various theories which had been brought forward. For this purpose he would select the very full and pregnant research of Klemperer and Klemperer upon pneumonia. The results of these observers might briefly be stated as follows:—1. Immunity against pneumonia can be bestowed upon susceptible animals by introducing into the tissues the sterilised products of growth of the pneumococcus. This immunity is in general but of a

temporary nature. 2. Such immunity, induced by injections of bacterial products, does not immediately manifest itself; indeed, fourteen days must elapse before the simple products bring about their effects. But if the sterilised products be heated either to 106° F. or 107·5° for from three to four days, or to 140° for two hours, then injections induce immunity within four days. 3. The warmed "vaccine" leads to a reaction of but short duration; the unwarmed brings about a long-continued febrile state, at the end of which the animal becomes immune. 4. Thus the fever, with its elevation of temperature, and the antecedent heating of the vaccinal material, induce the same result; one or other process would seem to be necessary in order that sterilised bacterial products develop immunity. 5. But, further, the blood serum of a "protected" animal injected into the veins of a susceptible animal confers immediate immunity. There is no delay. Evidently, therefore, some substance is present in the blood serum of an animal made immune, a substance not present in the sterilised culture fluids of the pneumococcus; the bacterial products, therefore, do not *per se* bring about immunity, but through the febrile reaction some other body having immunity-conferring properties is gradually developed. 6. What is more, this same substance has curative properties acting not so much on the pneumococci themselves (for in its presence these continue to proliferate), but upon the poisons or toxines manufactured by them. 7. Hence Klemperer and Klemperer distinguish two proteids—the pneumotoxine, which can be isolated from cultures of the pneumococcus, and the anti-pneumotoxine, to be obtained from the serum of immunised animals. It was unnecessary to dilate upon the way in which this work of the two Klemperers fulfilled and elucidated the previous observations of Salmon and Smith, Christmas, Roux, and Chamberland, Hankin, Bouchard and his school, Brieger and Fraenkel and others upon bacterial products; of Wooldridge, Christmas, Hankin, Buchner, Hankin and Martin, Tizzoni and Cattani, and Fraenkel upon proteid bodies capable of inducing immunity, and, in the case of some of these observers, upon the anti-toxic properties, as opposed to the bactericidal properties of such proteids. Nor was it necessary to do more than point out the light that these observations threw upon the meaning of the febrile state. Evidently, as shown by a large number of recent studies, the phenomena of infection and immunity are at base chemical; certain substances are produced by the bacteria on the one hand, by the organism on the other, whose action is of a chemical or chemical-physical nature. But now came the question: How was this action exerted within the body? Were bactericidal and anti-toxic substances normally free in the blood, were they developed within special cells, or were they generally distributed throughout the tissues of the body? In the first place, it could not be too strongly insisted that their presence in blood serum was no certain indication of their presence in blood plasma. Blood serum and blood plasma exhibited marked differences in their characters, and nothing was more marked than this difference in the bactericidal powers of the two fluids. An animal which was most susceptible to a given disease had time after time been shown to yield a serum capable of destroying large numbers of the micro-organisms causing that disease; and, at the risk of repeating what was well known to many, he would again call attention to Lubarsch's classical observation that whereas 10,000 to 12,000 anthrax bacilli are all that can be injected into the circulation of a rabbit without causing a fatal disease, one cubic centimetre (fifteen minims) of a blood serum of such a rabbit will in a few minutes destroy the same or a much greater number of the bacilli. While he was far from convinced that under no conditions the plasma can become bactericidal or anti-toxic, he still thought that sufficient satisfactory evidence had not yet been brought forward in support of the humoral theory. The cases mentioned by Professor Klein were not without flaw; the rapid diminution of the number of bacteria present in arterial or venous blood is not conclusive evidence that these bacteria have undergone destruction in the blood plasma (phagocytosis being as yet undeveloped). Professor Klein and the humoralists have to bring forward surer proof than has yet been adduced that the bacteria as foreign bodies have not been arrested in the capillaries of various organs, and that the diminution of their number in the circulating blood is not caused by such a filtration process. Again, while he was prepared to admit freely that bactericidal and anti-toxic substances may appear or be developed in the cells forming many of the tissues of the body, he held that it has yet to be proved that this can obtain to any great extent. We were still without proof that, save in the case of organs formed largely of leucocytes and potential phagocytes, the tissue can have powers at all comparable to those possessed by the serum and body fluids. We were therefore driven to the third possibility—namely, that the difference between serum and plasma depended upon an alteration in the condition of the white corpuscles, and that the leucocytes were a most essential factor in the production of immunity. There was not time here to bring forward all the arguments in favour of this view, but this he might say: what other interpretation was to be placed upon, not simply the engorgement, but the enlargement of lymphatic glands, the enormous increase in the number of white corpuscles in the blood in zymotic disease (under conditions to be referred to later), the determination of leucocytes towards regions of bacterial invasion, unless it be that the leucocyte plays a most important *rôle* in protecting the organism? It is true there were conditions in which it was wanting. In pneumonia, for example, Tchistovitch had shown where the virus was not very powerful, there an increase occurred; where the virus was very strong, there a diminution was to be made out in the leucocytes of the blood. The same occurred in regard to the amount of diapedesis resulting after local invasion, this depending upon the virulence of the invading organism. Taking into consideration general rather than local injections, we learn that the leucocytosis is dependent upon the reaction of the organism to the soluble products of the virus. That the leucocytes can possess bacteria-killing powers was supported by Hankin's observations upon the lymphatic glands and spleens of refractory animals, in which he showed that from those organs, composed as they were largely of mature and immature leucocytes and the parent cells of the same, could be obtained a bactericidal substance acting specifically upon the microbes to which the animal was refractory. It was impossible for him to criticise Dr. Woodhead's objection to this—namely, that Dr. Wright has grown micro-organisms freely upon leucocytes, until the conditions of these experiments had been fully described. To come now to the assumption of bactericidal powers by blood serum, he remarked that, as Rauschenbach had shown, and as a matter of common experience, coagulation of the blood and production of serum was accompanied by a great disintegration of certain of the white corpuscles,[1] and he suggested that to this disintegration was due the presence of bactericidal substances in the serum. Just as from fresh blood and intact white corpuscles no fibrin ferment was obtainable, so it might be that the intact leucocytes did not *normally* contain bactericidal substances, but precursors thereof. Possibly this was fitted to explain Dr. Woodhead's contention with reference to quinine. He was unwilling that this working hypothesis, whereby he had attempted to reconcile for the time being the divergent results of a host of capable workers, should be dubbed a theory; still more did he regret that it should have been accredited to him. For while he had worked it out along his own lines, its origin was to be found in Mr. Hankin's work, and to all intents and purposes this was the hypothesis brought forward by Hankin at the International Congress last year. If for no other reason, he was glad to join in this evening's discussion in order that honour might be given where honour was due. Lastly, as to the way in which the leucocytes acted upon the bacteria, he could not help being impressed by the fact that the more perfect the methods employed, the greater was the phagocytosis observable in the course of resolution of disease; and he concluded that, even though leucocytes had other methods of acting upon bacteria and their products, phagocytosis was a most important—probably the most important—factor in the production of immunity. Professor Burdon-Sanderson's main objection, that leucocytes were to all intents and purposes independent organisms, and that therefore they could not reasonably be expected to act in accordance with the needs of the organism, was, it seemed to him, based on the idea that leucocytes were generation after generation propagated in the blood, free from the fixed cells of the body. But this was scarcely the accepted view. Very little mitosis of the leucocytes occurred in the blood, whereas the characteristic mitotic areas in the lymph glands offered an almost certain indication that the proliferation

[1] Upon these points see the fuller details given by Dr. Wright in last week's LANCET.

of leucocytes occurred in regions where the parent cells might be regarded as fixed and capable of being influenced by nervous and other stimuli. It is to these parent cells rather than to the free, motile leucocytes, with their short span of life, that we must look to explain continued powers of resistance to bacterial products on the part of leucocytes, the development of increased resistance, the development of immunity.

Mr. T. J. BOKENHAM gave the results of some investigations on erysipelas which would have to be explained before the question of the causation of immunity could be settled. (*a*) Different effects of injecting cultures of true streptococcus erysipelatis into rabbits and guinea-pigs. Inoculation of a virulent culture into a rabbit's ear produced a typical spreading erysipelas without pus formation, though the lymph, whilst the process was advancing, was very rich in leucocytes. If some of this lymph be injected into a guinea-pig and another rabbit, the latter will contract a disease in every respect similar to that in the first rabbit, but nothing will happen to the guinea-pig. (*b*) Alteration of virulence of streptococcus erysipelatis under varied conditions. If a culture of streptococcus erysipelatis too attenuated to produce the disease in a normal rabbit be injected into one into which a simultaneous intra-peritoneal injection of a sterilised culture of bacillus prodigiosus had been made, typical erysipelas would appear at the point of inoculation. In this case, a rabbit which was immune to an erysipelas of a low virulence was made susceptible, and inoculation from it to a normal one would produce the typical disease in the second, and by continuing the process through successive rabbits a very virulent form of erysipelas could be produced, in which a highly infective disease occurred with generalised symptoms, though no reaction occurred at the point of inoculation. Here, undoubtedly, the local cellular infiltration seemed to have played some part in the localisation of the disease. If a rabbit vaccinated against the bacillus pyocyaneus be inoculated with streptococcus erysipelatis, a general fatal infection occurred without local reaction at the seat of inoculation, but blood from this rabbit could only produce the local disease in a normal rabbit in association with attenuated erysipelas, while a common mould increased the virulence of the streptococcus both generally and locally.

The following card specimens were exhibited.—Dr. CHAS. SLATER: Cultures and Preparations of Leprosy Bacilli.

## MEDICAL SOCIETY OF LONDON.

*Diagnostic and Prognostic Value of Tubercle Bacilli in the Sputum.—The Influence of Intra-nasal Obstruction on the General Health.*

AN ordinary meeting of this Society was held on Feb. 29th, the Vice-president, Dr. Stephen Mackenzie, in the chair.

Dr. F. J. WETHERED read a paper on the Diagnostic and Prognostic Value of Tubercle Bacilli in the Sputum. Since the discovery of the tubercle bacillus in 1882 by Koch much had been written in regard to the value of a search for this organism. He wished to make a few additions to what had already been published on the aid to diagnosis furnished by the tubercle bacillus from his own experience, and also to comment on its prognostic signification. As to the method of staining, after trial of several methods he had always reverted to the Neelsen-Ziehl process of staining in a carbolic acid solution of fuchsine and decolourising in a 25 per cent. solution of sulphuric acid. The chief points to which attention should be directed to procure successful results were: to select the early morning sputum; to pick out the small opaque particles; to stain for two minutes in the heated stain; to thoroughly take out the red stain with the acid, a quarter of an hour not being too long, although a minute was usually sufficient; finally, to counter-stain in methylene blue. There were still some medical men who viewed with a considerable amount of scepticism the value which was to be attached to the presence of tubercle bacilli in the sputum; but the various papers which had been published had conclusively proved their true value. Roughly speaking, a positive result—that is to say, their presence—was absolutely diagnostic of a tubercular process going on somewhere in the respiratory tract; but a negative result, their absence, was practically of no value. It was in those cases in which the history and physical signs were not clear enough to warrant a diagnosis of tubercle that a bacteriological examination was of value, especially when phthisis was masked by bronchitis or emphysema. In obscure laryngeal cases it was also of value, as a differential diagnosis from syphilis might thus be established. A negative result did not by any means absolutely exclude phthisis, even though several examinations of the sputa might have been made. As regards prognosis, he had come to the conclusion that little could be learnt from the numbers and distribution of the organisms. The mere fact of their presence naturally increased the gravity of the case, but beyond this he did not think it was safe to go, the general aspect of the case being a surer guide. He had found bacilli to be very few when the disease was progressing rapidly, and to be numerous when the patient was recovering. Examination of unstained specimens would often lend aid, and especially ought the leashes of elastic tissue to be carefully sought for.—Dr. HADLEY urged the importance of using absolutely clean slides, having found bacilli perfectly stained in slides washed for some days in spirit and potash. The organisms were discoverable in preparations which had been steeped for twenty-four hours in 25 per cent. sulphuric acid. He thought that when bacilli were found, specimens of elastic tissue could always be obtained. By the new methods of staining, however, the bacilli were the more easy of discovery. He agreed as to the difficulty of finding bacilli in miliary tubercle, even when squeezing out the actual miliary granules.—Dr. CHAPMAN recommended spreading the sputum on the slide instead of on the cover-glass, and insisted on the inefficiency of anything below one-twelfth or one-sixteenth objective.—The VICE-PRESIDENT asked the author of the paper as to his experience in finding tubercle bacilli in fibroid phthisis.—Dr. WETHERED, in reply, said his experience in fibroid phthisis was not large, but the cases he had examined did not furnish them. Apart from a caseous nodule or calcareous particle, it was difficult to distinguish between fibroid phthisis and fibroid pneumonia.

Mr. SPENCER WATSON read a paper on the Influence of Intra-nasal Obstruction on the General Health. Starting with the text that in many forms of disease, not obviously of nasal origin, patients have been cured or relieved by treatment directed against nasal stenosis, Mr. Watson gave a brief epitome of the functions of the nose as part of the respiratory tract, and drew attention to the varieties of stenosis as (1) Partial, (2) Complete, (3) Temporary, (4) Permanent. In some cases headache, migraine, and perhaps some other symptoms are due to the obstruction of the apertures of the sinuses opening into the nasal cavities, and other nerve symptoms result from sleeplessness as an indirect result of stenosis. Asthma is sometimes associated with stenosis, and is cured by local treatment. Operations of a complete character at one sitting are more likely to relieve asthma than a succession of small repeated operations. Hay asthma is not to be regarded as a simply intra-nasal disease, though often aggravated by nasal complications. The most common forms of stenosis—viz., snuffles in infants, adenoid vegetations, and chronic hypertrophic rhinitis, with or without polypi—were then described, and the treatment by the author's ring knife and by the wire snare recommended as applicable to many cases of the last-named diseases. Cases were related, and drawings of specimens shown. The conclusions were as follows: (1) That by suitable treatment directed against stenosis we may in young children prevent convulsions, deformity of the chest with its concomitant evils, and in some cases even prevent death from marasmus; (2) that in youth and early life by relief of stenosis we may prevent permanent deformity of the chest, deafness, impairment of speech, and even of the mental faculties; (3) that in adult life we may prevent, and in some cases cure, by the relief of nasal stenosis, asthma, spasmodic cough, bronchitis with its complications, and various mental disturbances.—Dr. DE HAVILLAND HALL differed from the author in preferring to operate under an anæsthetic, more particularly cocaine. In reference to hay asthma, he thought that if deep scarring were effected in the mucous membrane by means of the galvano-cautery there was no need for more severe measures. This method served also in cases of paroxysmal sneezing; this, however, in combination with general treatment. He alluded to the occurrence of enuresis, which was said by German authorities to be cured by removal of the obstruction, and to the frequency of hernia. These points, however, were not in accord with his own experience.—Mr. SCANES SPICER mentioned, in connexion with nasal obstruction, the occurrence of anæmia and a possible predisposition to phthisis.—Mr. SPENCER WATSON replied briefly, pointing out the cases which required a general anæsthetic.

## CLINICAL SOCIETY OF LONDON.

*Separation of Epiphysis of Head of Femur.—Myxœdema.—Microcephalus.—Sarcoma of Face and Neck.—Hæmoglobinuria and Gangrene.—Cholelithiasis.—Pachymeningitis Hæmorrhagica treated by Trephining.—Rhachiotomy.*

A "CLINICAL" MEETING of this Society was held on Feb. 26th, Sir Dyce Duckworth, President, in the chair.

Mr. DAVIES-COLLEY exhibited a case of Separation of the Epiphysis of the Head of the Femur in a lad aged fourteen, who presented, however, a considerable range of movement.

Dr. ARTHUR DAVIES showed the fourth case of Myxœdema he had met with in the course of five years. The disease was of seven years' duration, in a woman of forty. She had all the usual signs, with fatty cushions above the clavicles, albuminuria, and a diminution of urea to 1·5 per cent.

Dr. HADDEN exhibited a case of Microcephalus in an infant affected with rigidity of the limbs and retraction of the head. The parents were healthy, but there had been exposure of the mother to three distinct frights during the early months of gestation. The fontanelles were apparently closed at birth.—Dr. WALLACE ORD and Dr. LEES showed similar cases, and the question of craniectomy was raised.—Dr. JONES of Earlswood, referring to adults, said the prognosis was pre-eminently gloomy. Under these circumstances he thought an operation was permissible. He discarded the idea of maternal impressions, and said that such cases formed nearly nine-tenths of those in Earlswood Asylum. Vaulting of the palate was absent, the children were usually bad tempered, and progress was slow. He referred to a post-mortem examination he had made on an adult case, in which the occipital lobes were defective and there was flattening of the angular gyrus. Many cases became epileptic. An operation had been performed in four cases, but he was not aware with what result.

Mr. DUNN showed a lad on whose face and neck large masses of new growth (? Sarcoma) had formed. There was also ulceration of the palate. Portions had been removed and exhibited the structure of sarcoma. He was losing weight.

Mr. W. SPENCER exhibited a case of Hæmoglobinuria and Dry Gangrene in a boy who had slept for three nights out in the cold. There was a history of his being liable to pass bloody urine on exposure to cold, but none of cold extremities. The lesion he submitted was of the nature of frost-bite.

Mr. BLAND SUTTON communicated the details of a case in which a woman aged fifty-eight, suffering from gall-stones impacted in the common duct, was submitted to operation. After opening the peritoneal cavity the liver was found obscured by dense omental adhesions. The gall-bladder was shrunken, and contained three polygonal calculi, but no bile. No communication existed between the gall-bladder and the common duct. After carefully separating adhesions from the under surface of the liver, the common duct was detected blocked with four calculi. Two were firmly fixed at the duodenal orifice of the duct. The remaining two slipped into the hepatic duct, but could not be passed into the gall-bladder as the cystic duct was obliterated. Various attempts to move the calculi impacted at the duodenal orifice failing, the duct was incised close to the wall of the duodenum and the stones extracted; one of the stones pushed into the hepatic duct was not recovered. A glass drainage-tube was inserted, and the wound in the skin sutured in the usual way. On the evening of the tenth day following the operation the remaining calculus probably passed into the duodenum. The jaundice rapidly disappeared, the track of the drainage-tube closed, and the patient left convalescent after a sojourn of twenty-five days in the hospital.—Mr. ERNEST LANE mentioned a case of five weeks' duration, giving a history of a blow on the abdomen followed by abdominal distension. On cutting down, an enormous flow of bile took place from the peritoneal cavity. He had since had a letter from an Italian surgeon, who had satisfied himself that the idea that bile was poisonous to the peritoneum was erroneous.—Mr. STANLEY BOYD referred to Knowsley Thornton's method of breaking calculi up by means of a needle passed through the duct wall.—Mr. HULKE related a case in which the symptoms were typical, but where, on cutting down, he found a tangled mass of omentum in which was the gall-bladder contracted on a group of calculi. Though he felt convinced there must be some in the common duct, he was obliged to relinquish the attempt to liberate them. The patient died ten days later, and there was an opportunity of confirming the diagnosis.

Mr. STANLEY BOYD read an account of a case (under the care of Mr. Johnstone Harris) of Injury to the Left Side of the Head and Concussion, in which almost all symptoms, except occasional headache and lack of energy, disappeared in two to three weeks, and the patient, believing himself well, returned to work as an innkeeper. After seven weeks of apparent health he developed in about ten days right hemiplegia, commencing in the arm and spreading to the leg; at the same time he became more and more drowsy, and finally almost comatose, whilst his temperature rose to 102°. He was trephined with the view of evacuating an abscess, which was supposed to occupy the right arm-centre; but in place of an abscess a cystic clot containing about four ounces of clear, dark-red fluid was found, emptied and drained. Consciousness was not regained for several hours—perhaps because the walls of the cystic clot were somewhat rigid, and prevented expansion of the brain. Both the right limbs began to move on the day after the operation. The patient passed through an attack of delirium (*e potu?*) lasting several days, but finally made a perfect recovery. The opinion was expressed that the clot found was not an immediate result of the injury, but that, more probably, it was due to cortical hæmorrhage beginning about the time of the onset of the late symptoms. It was, however, pointed out that this view did not fully explain the final *rapid* increase of the insensibility.—Mr. OPENSHAW alluded to a patient admitted three weeks ago into the London Hospital. He had left-sided convulsions, beginning in the left hand. There was a history of a fall on the head a week previously, evidenced by a laceration of the scalp. It was decided to trephine. Four or five ounces of blood-stained serum and clot came away on cutting through the dura mater. The patient made a rapid recovery. In two cases of the same kind the pupil on the same side was dilated.—Mr. BLAND SUTTON thought the fissure alluded to by Mr. Boyd must be an ordinary fissure fracture. He came to this conclusion because there was no bevelling, no sutures, and no Wormian bones.—Mr. JOHNSTONE HARRIS said the diagnosis was easy, but he had expected to find evidence of an inflammatory lesion. He thought that there was probably a second extravasation to account for the deepening of the coma so long after the accident. He did not think the case threw much light on the pathology of subdural extravasation.

Mr. N. DAVIES-COLLEY showed a female patient aged twenty-three, a laundrywoman, unmarried, who was admitted into Guy's Hospital in July, 1891, with paraplegia and, what was then thought to be, angular curvature of the dorsal spine. The disease began seven years previously, after a fall. She had been comparatively free from pain &c. for some time, and had resumed her occupation. Two months before admission she had pain in the chest and back, followed by weakness and loss of sensation in her legs, with some incontinence of urine and *fæces*. On admission the patient, who was fairly well nourished, had a large rounded projection over the spines of the fourth, fifth, and sixth dorsal vertebræ. After three weeks' rest in bed, as her condition was gradually getting worse, Mr. Davies-Colley cut down and found that the tumour was due to a spindle-celled sarcoma growing from the lamina on the right side of the spine. It was removed with some difficulty, together with the spines and laminæ of the fifth and sixth dorsal vertebræ. The spinal cord was soft, but the dura mater appeared to be healthy. Complete recovery followed in respect of both sensation and motion within six weeks. Mr. Davies-Colley insisted upon the difficulty of distinguishing such a case from one of ordinary spinal curvature, and advocated the use of the term "rhachiotomy" instead of laminectomy.

## EPIDEMIOLOGICAL SOCIETY.

JOSEPH EWART, M.D., President, in the chair.

WEDNESDAY, FEB. 17th.

*Is Influenza etiologically distinct in Man and Animals?*

DR. ROBERT SISLEY read a paper under the above title, and began by remarking that, apart from and between the epidemics of imported influenza, there were from time to time local outbreaks of a disease very similar, if not identical, in its phenomena. One such had been described by Sir Peter Eade as having occurred in Norfolk in 1878, and

there were numerous notices of the kind in French and German medical literature Tessier, after a careful inquiry, had come to the conclusion that influenza was endemic in Russia, or at least never absent for many months from one part of the country or another. Horses, it was well known, were very liable to a disease or diseases known as influenza, but there was no doubt that the term was often applied to purely catarrhal affections. Indeed, the ambiguity of the expression was considered by the Academy of Medicine of Paris so great that they declined to investigate the question of the identity of the human and equine disease until the veterinary surgeons had come to some agreement as to what they meant by the name. In England, on the contrary, Dr. Sisley considered that the veterinarians were in advance of the medical profession—at any rate, in having long since recognised the specific and communicable character of influenza. Drs. Clemow, Copeland, and Creighton, and Professor Fleming, had recently done good work in this field, and he had collected from their writings the materials for two tables showing in chronological order the years in which epidemics or epizootics of influenza had been recorded. The former list was carried back to a much earlier date, but during the three or four centuries covered by both it would be seen that they sometimes corresponded, though frequently epizootics appeared alone, as more rarely did epidemics, from which some would conclude that there was no real connexion between them. But the carefully collected evidence brought together in this country by Sir J. Caird and Drs. Hartley, Parsons, and Bruce Lowe, and by Tessier and Ollivier in France, was almost irresistible as to the fact that, though rarely, it was so transmitted. In Caird's case there was no influenza among the human population of the district, but a number of horses in a most insanitary stable were suffering when a dancing class of forty children from the villages and homesteads scattered over several square miles met in the loft above and communicating with the stable. Thirty-three of the children were simultaneously attacked, as well as the men in charge of the horses.

The PRESIDENT remarked that at Brighton the horses, especially those in large establishments, had suffered severely some weeks before the epidemic had reached its height; indeed, the omnibus and cab service was completely disorganised. But a brewer who had no fewer than forty horses, by simply giving strict orders against their being allowed to drink at the public troughs, had succeeded in keeping his stables entirely free.

Dr. CLEMOW had not formed any opinion on the question of influenza in the lower animals; though sceptical as to the identity of the disease, and feeling the want of scientific discrimination among veterinary surgeons, he admitted the force of the evidence adduced by Dr. Sisley and the need for fuller future investigation.

Dr. WILLOUGHBY said that, though he had given considerable attention to the etiology of human influenza, he had no experience of the disease among the lower animals, and at present maintained the same attitude of scientific scepticism as Dr. Clemow. He would like to know if the enlargement of the spleen, which was as constant in human influenza as in enteric fever, and belonged to it as a specific disease, had been noticed post mortem in horses or cats, as it would be almost conclusive evidence of identity. If not, he hoped that Dr. Sisley would not fail to look to it.

Dr. SISLEY, in reply, promised to do so, as he was not aware of any such observations having been made. He agreed with Dr. Willoughby as to the immunity, if any, conferred by one attack being very feeble.

## ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Medical Section was held on Feb. 5th, Dr. J. M. Finny in the chair.

*The Dietetic Treatment of Enteric Fever.*—Dr. WALLACE BEATTY read a paper on the dietetic treatment of enteric fever. He laid great stress upon the importance of care not only as to the nature, but also as to the quantity of food. He considered from two to three pints of milk in the twenty-four hours ample nourishment for enteric fever adult patients during the entire illness. He believed that patients who were fed on such a restricted diet suffered much less from diarrhœa, tympanites, and sleeplessness than patients more liberally fed. He called attention to the fact that when from some cause, such as threatened hæmorrhage, the diet of patients had to be much restricted, a general improvement in all the symptoms followed. He advised extreme care in the manner of changing the diet at the approach of convalescence; a sudden change from liquid to solid food was, he believed, likely to provoke a fresh outburst of fever and bring on a relapse.

*A Case of Recurrent Enteric Fever followed by True Relapse.*—Dr. J. W. MOORE submitted a "clinical record" of a case in which not only did enteric fever recur in the same patient, but the recurrent attack was succeeded by a true relapse after an apyrexial period of eleven or twelve days. In April, 1877, the author attended, with the late Dr. Alfred Hudson and Sir George Owens, a lad of fifteen years, who passed through a typical attack of enteric fever lasting twenty-three days, in which, however, constipation, and not diarrhœa, was the rule. In October, 1891, the same patient, at the age of twenty-nine, sickened of a fever which proved to be undoubted enteric fever. After running an acute course of twenty-four days, followed by a subfebrile period extending over another week, this attack was succeeded by convalescence, which seemed to be in all respects normal. On the eleventh or twelfth day, however, from the establishment of apyrexia, acute febrile symptoms again showed themselves, and for the third time in his life the patient passed through an attack of enteric fever. The adjourned discussion on Dr. M. A. Boyd's paper on "Some Recent Modifications in our Views of Enteric Fever and its Treatment," which was read at the last meeting of the Section, was then opened in connexion with a discussion on the papers which had just been read.—The PRESIDENT criticised one or two points in the clinical history of the case described by Dr. Moore which occurred to him to need explanation. First, with reference to the significance of the diazo-benzole reaction. In his own experience—and he had applied the test almost daily to a large number of cases in Sir Patrick Dun's Hospital—he did not rely upon it as by any means a safe clinical test, either as to diagnosis or prognosis in fever, and he did not agree with Dr. Moore that the failure of the test was due in any way to the fact that his patient had had fever fifteen years before.—Dr. H. T. BEWLEY did not think the question as to relapses in typhoid fever could be solved until the whole question of immunity, natural and acquired, was more certainly known than it is at present—we do not know accurately why cases of infective fevers get well at all; possibly the greater tendency to relapse in typhoid fever as compared with such other fevers as typhus, scarlatina, and measles, was connected in some way with the long and irregular course and prolonged termination of the fever. With regard to giving solid food, in some cases of typhoid the fever will not decrease, and the patient grows weaker until solid food is given. It was difficult to say exactly when the time had come to give this solid food, and he would look anxiously for further information on this subject.—Dr. WALTER SMITH said that Dr. W. Beatty's paper was essentially a qualification or limitation of Graves' celebrated maxim.—Dr. LITTLE considered there could be no doubt of the value of a restricted diet in enteric fever; there could be no doubt of the value of milk when diarrhœa is present; but some patients are unable to digest milk, and especially if then danger arises from cardiac failure, he considered properly made animal broths more suitable than quantities of milk.—Dr. DOYLE also joined in the discussion.—Dr. BOYD, in his reply to the criticisms on his paper on the antiseptic method of treating enteric fever, considered that so far no more rational method of dealing with the disease from its pathology presented itself, and notwithstanding Dr. Smith's doubts as to any disinfectant reaching the intestine in sufficient strength to be of use after passing through both stomach and duodenum, he thought if any form of antiseptic could survive unaltered, the gaseous one should—especially in a solution which slowly parts with it. Chlorine evolved from an alkaline solution—such as the liq. soda chlorinate of B. Ph.—in his hands was followed by better results than when formed in an acid mixture. As regards the relapses in enteric fever, they seemed to him to be due in most instances to a fresh set of glands and Peyer's patches becoming the seat of fresh infection by typhoid bacilli. He lately showed an instance in a pathological specimen exhibited at the last meeting of a portion of the ileum, the seat of active ulceration in a patient who was ten days apyretic, when he died from acute perforation, the result of over-eating. This specimen showed how long a condition of ulceration may exist after typhoid fever, even when the

temperature has fallen permanently for as long as a week — In answer to Dr. Little, Dr. MOORE said that he sometimes gave small doses of quinine in enteric fever, not to reduce temperature, for fulfilling which object large doses alone would avail, but as a tonic from his experience of the remedy in other acute and prostrating maladies. Once the specific origin of enteric fever was admitted, Dr. Moore believed that no mere error in diet would bring about a true relapse, although it may be a contributory cause of such an accident.

# Reviews and Notices of Books.

*A History of Medical Education from the most Remote to the most Recent Times.* By Dr. THEODOR PUSCHMANN, Public Professor in Ordinary at the University of Vienna. Translated and Edited by EVAN H. HARE, M.A.Oxon., F.R.C.S.Eng., and L.S.A.Lond. London: H. K. Lewis. 1891.

THERE are two ways of writing the history of Medicine. One is to follow, in chronological order, the vicissitudes of the healing art, from its rude beginnings to its reduction to rational system by Hippocrates; from its abuse of the systematising spirit, with all its fatal excursions along "the high *priori* road," to its adoption of the inductive method, and its final settling down to the one true path on which alone it can advance—that of scientific research checked by clinical observation and experience. In this way, the history of Medicine has been well treated, mainly by continental scholars; and, in the classic works of Häser, Puccinotti, and Daremberg, the student may read in German, Italian, or French a comprehensive and trustworthy record of the rise and progress of the profession.

But there has long been room for another and more philosophic treatment of the subject. To consider medicine, like theology or law, in relation to the intellectual and moral movement of humanity from age to age; as reflecting no more and no less than the spirit, scientific and social, of the time; as advancing, pausing, or retrograding in sympathy with the civilisation of successive epochs: such is the way in which the history of medicine ought to be dealt with at the close of the nineteenth century. True, such a mode of treatment demands far wider knowledge and far more philosophic grasp than have yet been shown by either French, Italian, or even German scholars; but the possession of such qualifications is becoming an ever greater possibility, according as research throws up richer material to the surface, and as juster views of the march and meaning of history can be taken from a higher vantage ground commanding a wider horizon. Dr. Puschmann's work is a first attempt at this mode of handling the subject, and its success is such as might have been anticipated from a physician who is also a man of letters and a thinker of acknowledged accomplishment and power. Though scarcely three years old, it is already a classic; and, if not without defects, the lines on which it is laid are such as will readily admit of modification or supplement without sacrifice of its distinctive features.

Dr. Puschmann's method is indicated by his title, "The History of Medical Education"—that is, of all the intellectual and moral influences under which the medical mind is evoked, developed, and formed. Not only medicine itself, but the sciences in relation to which it stands, directly or remotely, come within his survey, and accordingly we never lose sight, all along the journey on which he leads us, of mathematics, physics, natural history, philosophy, and even government, civil and religious. This latter is shown to have had a powerful and too often a baneful influence on the academic teaching of medicine, putting its veto on anatomico-physiological research (dissection of the human subject, for example), and relegating to "empirici" the office of the surgeon by its long-continued discouragement of inquiry into structure and function.

In the domain of pre-Hippocratic medicine the most satisfactory section of the work is that on the Egyptian, thanks to the additions to our knowledge made by Ebers and other recent investigators. The healing art in China is left out, though even before the appearance of the work under notice missionary research had added a good deal to the meagre details disclosed to us. Nothing can be better, however, than his treatment of Hippocrates, to whose marvellous judgment and insight the author does full justice. The section on the Alexandrian school is masterly, showing a power of "reading between the lines" of Celsus such as has been given to few scholars. Indeed, the author's whole account of the Roman period is most interesting. Severus Alexander (not Alexander Severus), he reminds us, established public teachers of medicine, salaried by Government—a notable advance on the previous state of things, when the young aspirant had to attach himself to some popular practitioner and act as his assistant. In this connexion Dr. Puschmann refers to Martial's epigram describing the sufferings of the patient when doing duty as "object lesson" to a fashionable consultant, with an audience of a hundred students round his bed. But perhaps the most fascinating section is that in which he shows the influence, for evil and for good, of early Christianity on the healing art. The new religion encouraged the tendency, handed down from remoter times, to make book-study a substitute for post-mortem examination and experiment on the living subject; but it redeemed this error by its creation and diffusion of hospitals, in which its distinctive "caritas" went hand in hand with its multiplication of the means of clinical observation, whereby an experience was open to the young practitioner such as pagan antiquity could not furnish. The hospital system spread to the Arabs, who turned it to good account; but the collapse that befell the world in the early middle ages affected the healing art as it did every other intellectual interest, and not till we enter a new period, with the foundation of the Salernitan school, is medicine found to revive.

Salerno, at which lady professors—Trotula, Calenda, Abella—lectured side by side with those of the rougher sex, was followed in France by Montpellier, and in Italy by the addition of medical faculties to numerous universities. From this point Dr. Puschmann enters on a most instructive exposition of university expansion, showing how, in opposition to Church prejudice, anatomy, step by step, achieved recognition and a place in the curriculum; how pharmacy engaged the attention of students in compounding and dispensing; and how the beginnings of the modern clinique were laid. With the dawn of the fourteenth century the examination of medical candidates began to assume regular forms, though surgery and obstetrics were still regarded by the academic aristocracy as outside their cognisance, to be practised by privileged amateurs in whose families the *métier* descended from father to son. Then came the mighty Reformation era, which, following on the discoveries of Columbus and Copernicus, and grandly represented by Luther, made its renovating influence felt throughout Christendom in every intellectual and moral interest, that of medicine especially. Medical education quickly responded in sympathy with "the ampler ether, the diviner air," blowing fresh and free over all the parterres of Academe, till juster conceptions of the circulation of the blood were hazarded by Servetus, Colombo and Cesalpino (whom Dr. Puschmann strangely overlooks in this connexion), afterwards to fructify in the immortal demonstration of Harvey. Ambrose Paré superseded the barbarous operations of non-qualified surgeons by a really scientific and artistic use of the knife, and at the chief seats of learning the curriculum of the medical student gained rapidly in comprehensiveness and thoroughness. The medicine of scholasticism was now in full retreat, and all down the seventeenth

and eighteenth centuries we follow Dr. Puschmann in his excursions through the more civilised countries as these became rapidly endowed with new institutes and museums under able superintendents, where the mere rote-learning and rote-repetition of the "old masters" yielded place to living contact with the realities of life in health and disease, and where the physician and surgeon was being steadily trained into what he has become *par excellence—naturæ minister et interpres.* Intelligibly enough, Dr. Puschmann lingers at most length over the University of Vienna and the great medico-military school of the Kaiser Joseph II., and we cannot grudge the attention he bestows on that distinguished centre of professional education and practice. In the concluding section he deals with "medical teaching in modern times," and tells us much as to the methods and the means by which the nineteenth century keeps itself supplied with ever-fresh relays of duly qualified practitioners in every branch of the healing art. An excellent index completes the book, giving in alphabetical order a noble array of the men of "light and leading" to whom medicine first and humanity afterwards owe so much.

Dr. Puschmann's work is well worthy of translation into all the languages of Europe—into English especially, which, since the able work of Freind early in the last century, has (strangely enough) no historian of medicine to show parallel with the German Häser, the Italian Puccinotti, and the French Daremberg. Mr. Hare has performed his task with diligence and judgment, and, though we never miss the impression that we are reading a translation, we may congratulate him on the freedom and even elegance he combines with fidelity to the original. Here and there we detect him giving an imperfect or even erroneous English equivalent for the German. At p. 4, for example, "gründlichen" is not represented by "extensive"; and, p. 5, "Berechtigung" means something more than "significance." At p. 6, "bestätigen" is inadequately rendered "give form"; and surely, on the same page, "Ausbildung" might have had a less clumsy interpretation than "structure in the education." At page 24, in a quotation from the Iphigenia in Tauris, he avoids a blunder in Dr. Puschmann's Greek only to add one of his own. But these are small matters, which will receive attention in a new edition. More important are the omissions in Dr. Puschmann's original, which Mr. Hare, who "edits" as well as "translates" his author, might have supplied. We have referred to the silence in which Chinese medicine is passed over, and also to the exclusion of Cesalpino's name from the precursors of Harvey. A place should certainly have been found for Dr. Gilbert of Colchester, of whom Bacon was ignobly jealous; while Galileo pronounces on him an enthusiastic eulogy for his "concetto tanto stupendo" (of the magnetic polarity of the globe). A yet graver omission is that of Nobili and Matteucci, whom a countryman of Dr. Puschmann credits with the most valuable contributions to electro-therapeutics. In a second edition, we repeat, we expect to see these and similar defects repaired. Meanwhile we have nothing but praise for the work as a whole. It ought to find many readers, and to help, in some measure, to remove the reproach from the profession that it pays too little attention to history, that of its own rise and progress included.

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*Strophanthus Hispidus; its Natural History, Chemistry, and Pharmacology.* By THOMAS R. FRASER, M.D., F.R.S., Professor of Materia Medica in the University of Edinburgh. Edinburgh: Neill and Co.

UNDER the above title Professor Fraser has reissued, in separate form, two communications which have previously appeared in the Transactions of the Royal Society of Edinburgh. After a brief historical introduction the author deals in the first part with the natural history and chemistry of strophanthus, and his descriptions of the various parts of the plant are illustrated by numerous well-executed plates. The fascinating accounts of its use in Africa as an arrow-poison will bear re-perusal, although they are now matters of rather ancient history. The botanical description is very full, and applies not only to the parts which have now been rendered official, but also to the root, stem and branches, leaves and flowers. While all parts are carefully described, the greatest attention is naturally lavished upon the follicles and seeds. Professor Fraser's work in determining the chemical composition of the seeds is familiar, and it leaves nothing to be desired in the full description of the various stages by which the separation and identification of strophanthin, strophanthidin, and kombic acid have been effected, together with the no less interesting account of the unsuccessful search for an alkaloid.

The second part is devoted to a study of the pharmacological action, details of experiments upon over 150 animals being given to determine not only the general effects in frogs and rabbits, but also the special actions upon the cerebro-spinal nervous system, the skeletal muscles, the heart, bloodvessels and general circulation, the lymph-heart, and the respiration. Professor Fraser is not content with printing the general results of his work, he takes the reader into his full confidence, and shows him the various tracings from which these results have been so largely drawn. The clinical history of strophanthus is the only element which is wanting to complete the picture, and it is unfortunate that from the uncertainty inseparable from all therapeutic investigations we can never hope for this to be given with the force and precision which characterise Professor Fraser's most valuable study.

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*The Year book of Treatment for 1892: a Critical Review for Practitioners of Medicine and Surgery.* London: Cassell and Co.

THE "Year-book of Treatment" now has such a well-established position that it does not require detailed criticism. Its methods are well known, and most of the contributors have now settled down to a style of work which from experience they have found to be most satisfactory to those who wish for a concise review of the progress of the year in the various departments of medicine and surgery. There are only two new names amongst the contributors—viz., Dr. M. Handfield Jones, who is responsible for the section on midwifery, and Mr. J. Ernest Lane, F.R.C.S., who deals with the subject of venereal diseases, in the place of Mr. Alfred Cooper, F.R.C.S., who now takes charge of a new section devoted to diseases of the rectum. Dr. Berry Hart is no longer amongst the contributors; and Dr. Herman, who last year compiled the review of Midwifery, now treats of the diseases of women. In the present volume is to be found for the first time a "selected list" of new books, new editions, and translations, in which considerable space is allowed for French, German, and Italian works. Having thus mentioned the chief new features of the book, there is little more to be said, beyond remarking that the range from which material has been selected is, as usual, wide, and indicates considerable industry and the determination to make the Year-book as complete as possible. It is a little curious to note that of the twenty-one contributors, although fourteen are drawn from London medical schools, seven of these are from one school, and the remaining seven from three other schools, thus leaving a very large majority of the London hospitals totally unrepresented.

# THE LANCET.

*LONDON: SATURDAY, MARCH 5, 1892.*

OUR readers will have observed that at a meeting of the Council of the Royal College of Surgeons of England held on February 11th the Council, in pursuance of a resolution passed on March 4th, 1889, proceeded to the consideration of the infraction of By-law xvii. by certain Fellows and Members in February, 1889, by issuing notices convening a general meeting at the College without the sanction of the Council. After considerable discussion, the Council resolved to defer the consideration of the matter to its next meeting on March 10th, and meanwhile to inform the Fellows and Members concerned of this intention. It may, we think, fairly be presumed that in this postponement the Council was influenced, at least in part, by a desire to leave the door open for a conciliatory adjustment of differences by affording to those who had been led by mistaken advice on technical points into a breach of discipline an opportunity of retracing their steps, making the *amende honorable*, and acknowledging the legitimacy of the authority bestowed upon the Council in the Charters and by-laws. Should this course be pursued, there can be very little doubt that all sources of irritation will soon be removed, and that harmony will be completely restored. That this will be the outcome of the struggle we are encouraged to hope by the letter from Dr. GEORGE DANFORD THOMAS, chairman and treasurer of the Association of Members, which appeared in our columns last week. Dr. THOMAS states that a special committee of the Association has been formed for the purpose of considering the position of affairs and obtaining the means of meeting the liabilities incurred by the secretaries and members of the committee who were made parties to the suit "STEELE *v.* SAVORY." "The question of an appeal against the judgment of Mr. Justice ROMER was proposed and carefully considered, and, after weighing counsel's opinion, the committee determined that no further legal action should be taken." This determination of the special committee not to appeal against Mr. Justice ROMER'S decision will meet with general approval; for, notwithstanding the voluminous evidence collected by the plaintiffs and the substantial justice of their pleas for liberty of meeting and discussion, the prospect of upsetting Mr. Justice ROMER'S interpretation of the law, summary as it was, must be regarded as extremely remote. Much as we regret the issue of the struggle, and fully as we recognise the inherent greatness of that attribute of Englishmen of not knowing when they are beaten, we must frankly acknowledge that no good end could be served by keeping up the strained relations between the Council of the College and the Members whose sympathies generally have followed the action of the Association. To remove all traces of conflict without for one moment abandoning the principles whose too zealous assertion led to the present situation of affairs is the proper course for the Association to pursue. The adverse decision on the special points raised in the pleadings does not in the least affect the soundness of the principles on which the demand for reform of the Royal College of Surgeons is founded, or diminish the claims of the Members of the College to a voice in its management and in the election of its Council. If it has any effect at all it intensifies those claims because it imposes upon the great constituency of the College the necessity of being governed by charters and by-laws which are from fifty to a hundred years old, and are therefore in direct antagonism with the spirit of the age. It also requires from the Members of the College generally a fresh and united effort for the purpose of freeing themselves from the fetters which deprive them of the liberty to which they are justly entitled. The recent action was at least a courageous effort to serve the whole body of the Members, and it has involved the promoters in expenses which ought not to be left to be defrayed by the few who happen to be legally responsible. First efforts in the cause of freedom are often unsuccessful, but they pave the way for future success; and such future success may be ensured if the Members of the College will bestir themselves and unite heartily to further the common cause. A large accession of members to the Association of Members ought to be the immediate result of a reparable reverse, an accession which would at once be a demonstration of the earnestness of the Members in their desires for reform and a welcome replenishment of the treasury of the Association. If each Member of the College would contribute a small sum, and support the committee of the Association in any steps which may be deemed desirable for the purpose of obtaining a due recognition of the Members' claims, the whole complexion of the contest would be changed. It will always be assumed by the Council of the College, as it has been hitherto, that the Association of Members represents but a few of the Members of the College, unless positive proof to the contrary can be produced, and this idea strengthens greatly the opposition to the most moderate concessions to the Members of the College. The strongest arguments have and will have no effect while they as a body display apathy and indifference. The very extent of the constituency renders it the more difficult to influence and to arouse, and it may be that an organisation of the Association is required which will make provision for provincial representation and the formation of branches in different parts of the kingdom. Whatever may be the proper measures to quicken the interest and engage the active coöperation of the Members of the College, we trust that the committee of the Association will take the subject into serious and early consideration. All who are interested in the reform of the College must sympathise both with the cause itself and with those who have fought the battle and find themselves burdened with costs amounting to £2000. We therefore trust that the Members for whom the struggle was commenced will respond to the appeal of Dr. DANFORD THOMAS, and, to use his words, will "by their generous assistance testify to the courage and self-abnegation displayed in the important contest" in which the plaintiffs were engaged on behalf of the Members generally.

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A PARTICULARLY interesting article on the influences which affect the power of voluntary muscular contractions appears in the first number of the *Journal of Physiology*,

written by Dr. WARREN P. LOMBARD, Professor of Physiology in the Clark University, Massachusetts. The influence of surrounding conditions, or, as HERBERT SPENCER terms it, of our environment, is more or less distinctly recognised by all. To one man, light, fresh air, and freedom of movement, whether in the form of hunting, or fishing, or mountaineering, are essential to the enjoyment of life. To him the confinement and restricted activity of the literary student are insupportable. To another a free supply of food is an absolute necessity, whilst yet another will be happy on the grey peas and water diet of Friar TUCK. Some feel wine, or some substitute for it, and tobacco to be indispensable; others can cheerfully dispense with either or both. CHARLES DICKENS required the bustle and activity of a great city to stimulate him to his best efforts. WORDSWORTH preferred to commune with nature alone. But in every instance the influences of the great forces that surround us, as well as of the minor agents, may be traced in the vigour and energy with which the ordinary avocations of life are performed. There are fluctuations both of muscular and nervous power which are manifested in the quantity and quality of the work done, whether this be the production of a "Messiah" or of an "Alexander's Feast," or in some violent and protracted muscular effort. Dr. LOMBARD'S essay is an endeavour to ascertain what are the influences which determine the activity and fatigue of the central nervous mechanisms exciting the voluntary muscles to action. With this object in view, he made a series of experiments on the flexor muscles of the second finger of the left hand. The arm rested on a firm support, the first and third fingers were enclosed in closely fitting brass tubes, and a firm cushion was placed behind the knuckles; a leather collar was fastened round the second phalanx of the second finger, to which was attached a cord passing over a pulley, and supporting a weight of two or more kilogrammes. The movements of the finger and of the weight were recorded by an ingenious but simple apparatus on a revolving drum. Amongst the more interesting of the results obtained by Dr. LOMBARD were that, in the first place, the central nervous mechanisms become more quickly fatigued than the motor nerves and the muscles, for when voluntary contraction is no longer possible the muscles are still capable of contracting and of raising the weight when either the muscles themselves or the motor nerves supplying them are stimulated by an electrical current. Yet the experiments showed that the will power in general is unabated, for when the subject was unable to bring the exhausted muscles of the second finger into play he could make as strong contractions as ever with the extensor muscles of the thumb or of those of the same finger of the opposite hand. Hence Dr. LOMBARD concludes that the fatigue is located in some of the lower centres, perhaps of the spinal cord. It is remarkable, however, that, even when fatigue is complete, on continuing the efforts to raise the weight periodic returns of power were observed, which were probably of central origin. Speaking broadly, muscular power is greater in the morning than at night, though this is liable to vary under the influence of meteorological conditions, and the fall of the curve of power through the day is checked at regular intervals by the meals. The effect of exercise was very noticeable in increasing the power. Thus it appeared that whilst, when the first observation was taken, it was only possible to raise the two-kilogramme weight thirty times with a total amount of work of 2·92 kilogrammetres, on the twenty-third day no less than 778 contractions were made before exhaustion occurred, with a total amount of work of 36·86 kilogrammetres, the actual strength being thus increased nearly thirteen times, which is very encouraging to those flaccid inhabitants of large towns who endeavour to renovate their debilitated bodily powers by moderate exercise in the open air for a month or so in summer or in autumn. The effect of alterations of atmospheric pressure were carefully examined, with the result that, though no constant relation between the work and the absolute atmospheric pressure was found, it was noticed that the power often increased when the barometer was rising and decreased when it was falling; and, as the research advanced, Dr. LOMBARD became more and more convinced that he was influenced by the changes in the height of the barometer rather than by the absolute atmospheric pressure; so that modifications in the power of his muscles were very observable coinciding with the diurnal alterations in the barometric pressure, and quite independent of the general height of the mercury. There appeared to be two well-marked maxima in the twenty-four hours, the maxima occurring at 10—11 A.M. and P.M. and the minima at 3—4 A.M. and P.M. The influence of tobacco and of alcohol was finally investigated, and with results that are certainly remarkable. These drugs seem to have an antagonistic effect. Tobacco acts rapidly as a depressing agent, and its influence quickly passes away. Alcohol, on the contrary, acts as a stimulating agent, and it increases the endurance of the muscles. In one experiment with tobacco the total work in kilogrammetres at 8.30 A.M. was 10·25, but eighteen minutes after smoking a cigar of medium strength the total work fell to 6 kilogrammetres, and an hour after to little more than 2 kilogrammetres. But at 11.30 A.M it had risen again to 10·25. This is a result well worthy of the attention of all smokers about to engage in any physical contest. The effect of alcohol is not less marked in the opposite direction. The whole of this communication is very suggestive, and is deserving of the careful attention of physiologists and of physicians.

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THE profession in the colonies of Great Britain is, on the whole, sound in its determination to be faithful to the great traditions of professional method and conduct. It is, perhaps, not remarkable that in countries so young, with society in a democratic form, and a large admixture of men of an independent and unconventional type, some liberties should be taken with old-established professional modesty and reserve. Some time ago we made allusion to this state of matters in Victoria with regret, but with a sense of duty. A correspondent in Australia forwards us illustrations of the fact that in New South Wales matters are even worse than in Victoria. Not only is the number of avowed quacks much greater, but the practice of advertising by qualified practitioners is deplorably common. He sends us several specimens. "Dr. M. PERRY, M.R.C.S., L.S.A.," advertises himself as a specialist for nervous complaints. His work on nervous diseases is free, and he has medi-

cated electrical baths specially adapted for the treatment of nervous complaints. The following are two other advertisements:—"Dr. THOMAS. Examinations passed: M.R.C.S. and L.M. Eng., L.R.C.P. Eng. Dr. THOMAS offers safe and skilful treatment for the cure of nervous, skin, and contagious diseases. Consulting rooms: 244, Castlereagh-street, opposite the Royal Standard Theatre. Hours from 9 A.M. till 8 P.M." "Dr. ALEXANDER PATERSON, A.M., M.D., Specialist Chronic and Nervous Diseases &c." Dr. ALEXANDER M. JOHNSON, however, modestly contents himself with the announcement that he is a legally qualified practitioner. Such advertisements in the chief daily papers of the great cities show a decided laxity in professional ethics. Our correspondent adds further illustrations from his own personal knowledge. He has known a graduate share a case with a quack. In a consultation he has heard the consultant offer further attendance, and in another case attend without offering, until refused admission. He complains that the medical laws and General Council of the colony permit such "flagrant breaches of moral and professional etiquette." We firmly believe that such conduct has the strong reprobation of the bulk of the profession. But the profession must bestir itself to denounce and disown all who practise it. For such persons grow bold by their own defiance of established ethics and construct theories for their own justification. A remarkable instance is forwarded to us in the batch of papers from which the above unseemly and discreditable advertisements are taken. It is in the form of a letter signed by ALEXANDER PATERSON, A.M., M.D., F.R.C.S.—presumably the same graduate who advertises himself as a specialist in chronic and nervous diseases. The occasion of Dr. PATERSON'S letter is the fact of a Bill being before Parliament at present, which has for its object, as our Medical Act has, to enable the public to distinguish between qualified and unqualified practitioners, and which very properly contains a clause giving to the Medical Council of New South Wales power to strike off the Medical Register the name of any practitioner whose name has been erased from any recognised body from which he obtained his qualification. Dr. PATERSON points out that the qualifying body may remove the name of a person for conduct derogatory to the honour and dignity of the profession—"that is, for a matter of etiquette or sentiment, not misconduct." He uses strange words to denounce such action and powers on the part of the qualifying bodies, and asks: "What have the public to do with maintaining the honour and dignity of the profession?" We answer unhesitatingly that the public has everything to do with the honour and dignity of the profession, and that its representatives are highly wise in enacting laws that tend to the maintenance of them. Dr. PATERSON makes two points: First, that so long as a man is "qualified," in the sense of being competent, he has a right to be on the Register. The second is that if a medical man errs in conduct he should be judged by the ordinary courts, and not by a professional tribunal. He should have the same justice as a common culprit. The argument may sound plausible; but it is hollow, and it is discreditable. Every other profession regulates itself and lays down its own standard of honour. The Law and the Church have each its own domestic and internal authority and discipline. It has ever been so in the medical profession. And we see no reason for departing from it. Dr. PATERSON must know that it is the satisfaction of a man to be judged by his peers, and that only professional men can be judges of professional conduct. The public has the greatest possible interest in the maintenance of a high code of professional conduct which represses pretension and vaunting after the manner of quacks. It is only professional men that can be judges of the public evil done by such a system and by other acts and methods of men who hold themselves out as being something superior. The very development of specialism makes the maintenance of the strictest professional methods in practice essential. Otherwise the public will be hopelessly injured. Men like these advertising practitioners want incongruous and inconsistent advantages. They want to be in a profession and have all the honour and respectability that attach to its code of morals and its traditions, and they wish to have all the freedom of quack doctors and nostrum vendors. They may have one or the other of these, but they cannot have both. If they think so little of the judgment of a professional council and value it so lightly they should show more dignity in bearing the natural consequences of such judgment. We are asked in effect, What is mere etiquette or honour compared with qualification? The answer is that from HIPPOCRATES downwards the moral character and the dignified behaviour of medical men have been regarded as an essential part of their "qualification" for the great duties entrusted to them. In the judgment of the public the duties of medical men are so important, and withal so delicate and refined, that it has made the profession the judge of its own members alike in the public and the professional interest. This is found to be for the good of the mother country. It is not likely to be less beneficial in her colonies. Medical authorities have no pleasure in erasing the names of their diplomates, and the public may be assured that when they do so it is for good public and professional reasons.

# Annotations.

"Ne quid nimis."

## NOTIFICATION OF MEASLES.

THE District Committee of the First or Upper District of the County of Renfrew has determined to add measles to the list of diseases to be notified under the Notification Act. The following is the resolution of the committee: "The District Committee of the First or Upper District of the County of Renfrew, as local authority under the Public Health (Scotland) Act, 1867, within the bounds of the said First or Upper District of the County of Renfrew, hereby order that the Infectious Disease (Notification) Act, 1889, shall apply, in their district, to the following infectious disease—viz., measles; and further order that this resolution shall come into force eight days after this order has been approved of by the Board of Supervision and publication of the advertisement thereof, in terms of the Act of Parliament—that is to say, on the eighth day of February, 1892." Dr. Munro, in forwarding this circular to the medical men of the district, properly invites notifica-

tion at the earliest possible moment. But he adds a sentence which seems to one of our correspondents a little *ultra vires:* "Further, we do not desire to have notification of cases of measles occurring in households within three weeks of the notification of the first case." Our correspondent asks: "Has the medical officer power to say that certain cases of measles shall, and others shall not, be notified?" The question is finely legal. But Dr. Munro is not likely, either for himself or his "authority," to act illegally. The extension of the Act to measles is in the power of the local authority, to which we may accord the right of defining the extension. There is no limitation of cases of measles in the resolution of the authority.

## LAST YEAR'S CHOLERA IN ASIATIC TURKEY.

THE real extent of the late prevalence of cholera in Asiatic Turkey may never be known, but certain official returns dealing with the subject have recently been compiled in Constantinople. The outbreak is referred to as having been first noted at Herim, near Aleppo, on June 9th last, and before its cessation in mid-November 1659 persons are stated to have died of the disease in the villayet of Aleppo. In Damascus, between Oct. 18th, 1891, and the beginning of the second week of January last, 801 fatal cases are stated to have occurred. In the Hedjaz, including Mecca, Medina, and sundry other holy places, 3178 persons are reported to have died of cholera in July and August; and following on this, 818 fatal cases occurred in the villayet of Yemen, in the south of Arabia, during the months of October and December. Thus, some 6500 cholera deaths are known to have occurred in the places named. But there still remain the returns for Beyrout, which had not at the time of the report come in; and also those for the country parts of the province of Damascus, as to which it is implied that they may never be forthcoming. Adding the probable deaths in these localities to the list already received, it is estimated that some 10,000 people died of cholera in Asiatic Turkey during the latter half of last year, notwithstanding the fact that the distribution of the population is very sparse, except at certain spots during the pilgrimage period in Arabia.

## THE OPIUM CONTROVERSY.

IT is with opium as with alcohol. We are continually hearing from opposite standpoints "the truth" about it. As yet, however, the unpractised hearer, however candid, finds himself so beset with contrary arguments that he has little chance of arriving at an exact opinion on the subject of its use or its abuse. We had occasion recently to notice the significant fact that a memorial condemnatory of the growth and sale of the drug, as now permitted by the Indian Government, had received the signatures of some five thousand British medical practitioners, a considerable number of these having had, we may state, personal observation of the opium habit as practised in China or India. On the other hand, we have a mass of official Indian testimony, largely drawn, moreover, from non-medical sources, which is opposed to the view that the use of opium has gravely prejudiced the health of our fellow-subjects in that country, that it is decidedly increasing, or that its manufacture there has any marked influence on the maintenance of opium-eating and smoking in China. According to this evidence, not only is the drug, if used in moderation, not injurious, but it is in some cases—notably those of persons exposed, as in Assam and Eastern Bengal, to damp and malaria—positively beneficial; it is conservative of physical endurance, it enables the consumer to live healthily on less food than he would otherwise require; it does not, as asserted, cloud his mental faculties, and, even if hurtful, it is so by reason either of adulteration with Indian hemp or of excessive indulgence. They assure us also that the Chinese objection to its importation is only pretence, and intended to protect the privileges of native producers. We observe, however, that even these advocates of its utility do not deny the capacity for mischief possessed by opium if indiscreetly taken. Neither do they dispute its essentially and strongly poisonous character. They show, moreover, no direct or indirect advantage worth naming as arising from its consumption, unless in the presence of illness or as a preventive of malarial infection. These facts, in our opinion, are quite sufficient to justify its restriction to purely therapeutic uses, the more so that it is, if we may trust the teaching of modern observation, by no means the best safeguard against malaria. As regards the attitude of the Chinese Government, we may note a statement by the Viceroy Li Hung Chang in 1881, in which he resents on moral grounds the encouragement given by this country to the opium habit in his own, and declares that the opium war must be taken as China's ineffectual protest against our action. Our ambassadors to China, Sir Rutherford Alcock and Sir Thomas Wade, unlike some critics less favoured as to means of observation, were convinced of the sincerity of these protestations. In Burmah, it is said, matters are coming to a condition no more hopeful than that of her greater neighbours, foreigners and the natives alike indulging freely, and with obvious injury to health and morals, in the same seductive habit. In the face of such facts as these we confess that we can see but one way of escape from the difficulties which surround this question—that is, the legal restriction of opium to its use for purely medical purposes.

## EASY CENSURE OF MEDICAL OFFICERS OF WORKHOUSES.

THE *Weekly News and Clerkenwell Chronicle* and other local papers have lately very naturally given some prominence to a motion of the Holborn Guardians censuring the esteemed medical officer of the City-road Workhouse, Dr. Yarrow. We have never known the censure of a medical officer, to say nothing of a medical officer of twenty-one years' faithful and excellent service, to have such an infirm basis. The censure had reference to a man named Reeves, forty-three years old, who had been suffering for months from chronic bronchitis. He was admitted on Dec. 23rd, having walked to the workhouse, and within five minutes of his admission was seen by Dr. Yarrow and ordered to Highgate Infirmary. The workhouse, according to Dr. Yarrow's version and the statement of one of the guardians, is not equipped for the treatment of other than cases of old age and its infirmities, and very inadequately for these. There is only one trained nurse for day duty to about 300 aged sick, and for night work only two untrained nurses. About 1 o'clock P.M. Dr. Yarrow saw the man again, after a dinner of beef-tea and bread. At 3.25 a message was sent to the medical officer that Reeves *had been taken very ill*, and desiring his attendance. Dr. Yarrow came in at 4, and was at the workhouse at 4.15, and prescribed for the patient. He saw him again at 8.20. Reeves was still breathing with difficulty, and on the next day he died, having been seen four or five times by Dr. Yarrow. The two points in the censure were that Dr. Yarrow had not given active treatment to Reeves after ordering him to the infirmary; and that there was an error of judgment in sending him to the infirmary on a foggy day. The short answer to these charges is that a man who had walked to the workhouse was presumably fit to be removed in an ambulance to a more fit and comfortable place, and that it was reasonable under the circumstances to defer active treatment, though a dose of mixture kept in the dispensary had been given. The very language of the master's message shows that a change for

the worse took place after Dr. Yarrow's visit at 1 o'clock. What conceivable justice is there in blaming Dr. Yarrow for this? The least knowledge of such cases in winter months is enough to show that such rapid changes do constantly happen. What are we to think of guardians who on such a basis can found charges against such a man as Dr. Yarrow, who has filled his office for twenty-one years without a charge of neglect? Equally groundless is the attempt, as the *Weekly News and Clerkenwell Chronicle* points out in a very just article, of attempting to found a complaint against Dr. Yarrow for occasional short visits to the workhouse, as on Sundays. Judging from the record of this incident, Dr. Yarrow would seem almost to live in the hospital. Many guardians seem to have a notion that there should be a resident medical officer. There is no evidence that anyone has suffered for want of one, though, according to Dr. Yarrow, there is much need of improvement in the nursing staff. If the guardians really wish to make different medical arrangements, let them discuss them impersonally and do full justice to one who has served them so well. The interests of the poor must not be made a cover for unreasonable treatment of a medical officer. We rejoice that the Local Government Board has been asked to give judgment on these facts. Dr. Yarrow should, and no doubt will, court the fullest investigation. If the interests of the sick poor in workhouses are to be promoted it will not be by disproportionate charges against medical officers, especially in the case of one with a history like that of Dr. Yarrow.

## ROYAL MEDICAL BENEVOLENT COLLEGE.

THE biennial festival of this College will be held on Tuesday, April 5th, at the Hôtel Métropole, at 6.30 P.M., when the Right Hon. David Evans, the Lord Mayor, will preside. The sheriffs of London will take part in the proceedings. The council of this important medical charity is desirous of raising funds to meet more fully the annual outlay on the benevolent side of the work, which is very considerable. They have at heart also the raising of a special fund of about £26,000, which would enable them to augment the incomes of the pensioners at present residing at Epsom, and thereby enable them to live amongst their relatives and friends. This proposal appeals directly to the active support of all medical men on the several grounds of sentiment, policy, and economy. By its realisation it will benefit the pensioners as well as the pupils, and in the long run must add to the usefulness of the College. It will afford us great pleasure to be called upon to redeem our promise of £1000, and we sincerely hope that all medical men will make a great effort to help the Council to carry out this beneficent scheme. If this could be done, the Asylum buildings could be set free for an important part of the extensions, which have been rendered necessary by the growth of the school.

## FUMES FROM HIGH EXPLOSIVES IN MINES.

THE federated Institution of Mining Engineers have done good service by publishing the results of some important investigations on the effect on the air of coal mines produced by the use of the new explosives, roburite and tonite, in place of gunpowder. The new agents are very powerful, and as explosives they do not appear to be especially dangerous in use. But it was open to grave doubt whether the products yielded by their explosion might not exercise an injurious influence on the health of the workmen. Roburite is a mixture of ammonium nitrate with chloro-dinitro-benzene, the latter compound being expressed by the formula $C_6H_2Cl(NO_2)_2$. The compounds obtained by its explosion are said to be carbonic acid gas, hydrochloric acid, nitrogen, and water, so that complete conversion into gas takes place; but it seemed quite possible that nitrous fumes—and it was almost certain that carbonic oxide—would be formed. Tonite is a mixture of equal weights of gun-cotton and barium nitrate, and its decomposition on explosion results mainly in the formation of barium carbonate, carbonic acid gas, water, nitrogen, and oxygen; but here again there seemed a risk that poisonous vapours might be emitted. An experimental investigation was therefore undertaken by the Durham Coal-owners' Association and the Durham Miners' Association, the chemical portion of the examination being allotted to Professor Bedson of Durham, the medical study to Dr. Drummond and Dr. Hume, and the engineering management to Mr. Walter Brown. The results are now published in the form of a pamphlet. Blasting operations were carried on at intervals from 1889 to 1891, and by skilfully devised apparatus Professor Bedson succeeded in collecting and analysing samples of the gases almost immediately after the shots were fired, not only at some little distance from the spot, but also from the immediate neighbourhood. Comparative experiments with gunpowder were made, and the general conclusion reached was that the fumes emitted from the new explosives were less rather than more dangerous than those from gunpowder. Carbonic oxide was found in every case, but only in minute quantity. Hydrochloric acid does not appear to have been detected at all, which is curious, as it is certainly formed during the combustion of roburite. We infer that the whole of the barium is retained in the solid state as carbonate, for no allusion is made to its presence in the fumes. Of course barium carbonate is a very fixed substance; but, considering the enormous temperature caused by the explosion, it might have been feared that some traces of this very poisonous metal would linger in the vapours for a short time, possibly in suspension.

## AMŒBIC DYSENTERY.

FOR some time past Drs. Councilman and Lafleur have been investigating a large number of cases of dysentery, caused, as they believe, by the amœba coli, or, as they prefer to call it, the "amœba dysenteriæ." A summary of their work is given in the *Boston Medical and Surgical Journal* of Dec. 24th, 1891. They maintain that amœbic dysentery is a distinct disease caused by amœbæ which enter the body and produce characteristic lesions of the intestine. They may also produce abscesses of the liver with or without lesions of the lung. Such abscesses differ in their characteristics from those occurring in other forms of dysentery. Dr. Lafleur is responsible for the clinical part of the work. He found the onset of this disease to be variable, its course irregular, with frequent exacerbations and intermissions, but tending towards chronicity. Tenesmus was infrequent; the stools contained mucus mixed with blood, but differed in general characters from those seen in other kinds of dysentery. In chronic cases, with a fairly good appetite and digestion, a grave anæmia might exist, without the escape of blood from the rectum. The prognosis is always uncertain; death may take place at any period in the course of the disease, and recovery, when it takes place, is gradual. The essential feature in the diagnosis is the detection of actively moving amœbæ in the stools, sputum, or aspirated contents of a hepatic abscess. Dr. Councilman concludes that the amœbæ in food or drink reach the large intestine, where they find favourable conditions for their development. They multiply rapidly, and cause a superficial necrosis and an increased flow of mucus. They penetrate the mucous membrane passing between the glands and invade the submucous

tissue, where they give rise to an œdematous swelling. The overlying tissue, being thus deprived of its blood-supply, dies, and ulceration is the result. The ulcers increase by a progressive, undermining process, though their typical course and appearance may be modified by the action of associated bacteria. In some cases the amœbæ pass into the muscular coat, producing changes similar to those seen in the submucous layer. These lesions thus correspond with those generally described under the term "follicular dysentery" rather than with those included under the catarrhal and diphtheritic varieties. Dr. Councilman thinks the amœbæ usually invade the liver by crossing the peritoneal cavity, although they may be found in lymphatics and bloodvessels. He bases this view upon the absence of amœbæ in the lymph glands and the usual limitation of the abscess to the upper or lower surface of the right lobe of the liver, whereas abscesses from portal embolism should be found in either lobe, deep-seated as well as superficial. The abscess in the lung is usually found in one particular place—namely, the lower lobe of the right lung, where it is in contact with the diaphragm. It frequently arises from the direct extension of the hepatic abscess through the diaphragm, although this muscle may sometimes be intact. The typical effect of the amœbæ is best seen in the liver, where they appear to produce a necrosis of the tissue, and a solution of the inter-cellular substance. The so-called abscess is thus made up of detritus, and not of pus corpuscles.

## DEVELOPMENT OF HEALTH RESORTS IN SIBERIA.

SIBERIA is not a place where, according to the conceptions of its climate and topography prevalent in this country, health resorts of an agreeable character are to be looked for. The inhabitants, however, seem determined to establish "baths" on the type of those met with on the Continent; and an energetic merchant, M. Kukhterin, has already supplied the means for the scientific examination of Lake Ingol in the Yeniseiski government, some 200 miles to the east of Tomsk. This examination was entrusted to Dr. Stanilaus Zaleski, Professor of Chemistry in the University of Tomsk. His report, which is embodied in an illustrated pamphlet, shows that, though the waters of the lake are of the chemically indifferent variety, they, as well as the mud, are suitable for the treatment of a good many classes of chronic affections. It is proposed to build a regular hydropathic establishment on the shore. The surrounding country is very sparsely populated, but the waters have been used, in an empirical manner of course, with, it is said, considerable success. The Russian Government appears to be anxious to develop the hydro-therapeutical resources of Siberia, for Professor Zaleski has received instructions to continue his investigations. The next locality upon which he is to report is Lake Shiro, in the Yeniseiski government. It would seem that the Tomsk University, though only established about four years, has already proved itself an important centre of scientific investigation. It is as yet, however, very poor and insufficiently equipped. Still, with a staff of enthusiastic young professors, such as it evidently has, it seems not unlikely to accomplish much for the enlightenment of a somewhat dark region of the world.

## HEALTH AND GODLINESS.

IN an age wherein the duties of a brother's keeper are probably more fully admitted than in any preceding epoch it will be allowed that the purposes of the society known as the White Cross League are wholly worthy of support and imitation. They may be briefly summarised as tending to promote among all classes the growth of a spirit and practice of purity. This is to be attained by the operation of two agencies, which, however, are clearly and rightly recognised by the members of the League as double rather than separate, so closely are they and the circumstances with which they deal associated. We have in the first place that which is moral and personal, and which inculcates directly the necessity of individual temperance and chastity, and we have also that which, by amending unsuitable conditions due to neglect, aims at producing a soil and environment which will encourage the growth of virtue. It is in this latter project that we are especially interested. The Rev. J. W. Horsley, in a paper lately published by the League, directs attention to the close connexion already known to exist between personal immorality and insanitary home surroundings. His experience of parish work, he tells us, has abundantly proved not only this fact, but no less clearly the power of reclamation which has been committed as a public trust of legislation to any and all householders willing to apply it. He expresses in a style as luminous as it is concise the practical drift of those Acts which make for the promotion of domestic cleanliness and decent living, from the old Nuisance Removal Act of 1855 to the Public Health Act for London which came into force last January. Into the provisions of these it is not needful that we should now enter, but we would again state our appreciation of the practical wisdom, at once worldly and other-worldly, which has guided the League and the author of this paper in striking thus deeply at some of the main roots of national illness and ill-doing. The White Cross League is a Church organisation. We have said enough to show that its work is universal and humane—the common sphere therefore of every ethical, moral, and religious force.

## DEATH OF DR. JAMES ROSS.

WE regret to have to announce the death of Professor James Ross, lecturer on Medicine in Owens College, Manchester. He was a graduate of Aberdeen, and came to Manchester as pathologist to the Royal Infirmary of that city, directing himself particularly to researches on nerves. An outcome of his investigations on that subject was his "Treatise on the Diseases of the Nervous System," published in 1833. He also published a "Handbook of Diseases of the Nervous System." He wrote many papers, among the more noteworthy of which were "The Segmental Distribution of Sensory Disorders," a paper on "Evolution," and one on "Memory." He was an acute and philosophic observer of disease. As a psychologist and a scientific physician he occupied the first rank. A fuller notice is reserved for publication in our next issue.

## THE CHEEKS IN GLASS-BLOWERS.

IN the last number of the *Progrès Médical* Dr. Regnault describes the condition of dilatation of the cheeks which occurs in glass-blowers, and which, so far as he has discovered, has not received much attention as regards the condition actually present and the cause of it. The work of glass-blowing is one requiring considerable skill and delicacy, and the apprenticeship necessary is a long one. Consequently boys commence the work, as a rule, at some time between the ages of twelve and fifteen, when the cheeks are not yet formed. The change is a gradual one, and for the most part takes place imperceptibly. When it is commencing there may be slight and unimportant pain. The pain disappears when the dilatation is achieved. It varies in degree, and frequently is only perceived when the cheeks are inflated. The limits of the swelling are inferiorly a line joining the chin and the ear, following the inferior oblique line of the lower maxilla; superiorly, another line starting from the ala of the nose, running up to the malar bone to strike the anterior limit of the masseter, which forms the posterior

boundary of the swelling. The dilated wall is thus formed of the aponeurosis of the cheek, and of muscles such as the levator alæ nasi, the zygomatics, the orbicularis oris, and especially the buccinator. It is rare for this condition to be so marked as to be noticeable during repose. An interesting accompaniment is the dilatation of Stenson's duct. After the patient has ceased to blow and the cheeks have subsided there remains still some air in the canal, and gaseous crepitation can be perceived on pressing over it. Examination of the mucous membrane also shows the orifice of the canal considerably dilated, and a plug three millimetres in diameter can be inserted into it. Fortunately, the inconveniences to which the condition gives rise are for the most part slight, consisting of occasionally some slight difficulty in keeping the food from getting between the teeth and the cheek, and a tendency to white furring of the inside of the cheek, necessitating the occasional use of an antiseptic mouth-wash. Dr. Regnault gives the particulars of three cases which he has observed clinically, and calls attention to the interesting fact that sculptors, in representing Tritons blowing into shells, have reproduced exactly the deformity described.

## FILARIASIS.

AMONG twenty-six officers and colonial officials admitted to the Val-de-Grâce Hospital between May 1st, 1890, and Feb. 1st, 1891, Professor Moty observed four cases of the above disease, and two other cases in the parents or friends of the patients. Four, however, of those admitted to the hospital had been abroad for so short a time that they may be left out of the calculation, leaving six cases among twenty-two persons who had spent a considerable time in the colonies. In spite of its frequency, this disease does not appear to be generally recognised abroad, as in none of the above cases had it been diagnosed. It was only upon undertaking an operation for the radical cure of a supposed hernia that the tumour was found to consist of dilated lymphatics. Professor Moty came to the following conclusions: That filariasis is an aseptic parasitic disease due to the presence of the filaria sanguinis hominis; that it is of frequent occurrence in the French colonies, and has been recently met with in New Caledonia. It most often appears as an enlargement of the glands and lymphatics of the groin and spermatic cord, due to the irritation of the filaria and its embryos. It can be recognised by such symptoms as chyluria, hæmaturia, &c.; but the diagnosis in each case should be confirmed by the detection of the embryos in the blood. Neither internal nor palliative treatment is of the slightest use. Excision or amputation is necessary in severe cases, and is attended with the happiest results, the removal of the hypertrophied tissue causing the adult filaria to disappear.

## LIFE ASSURANCE AND THE MEDICAL PROFESSION.

WE find that THE LANCET is credited in quarters that should be better informed with having advocated a form of life assurance for medical men in which the premiums increase as the policy grows older. This is an entire misapprehension. What we have recommended is a form of long-term temporary assurance under which the premium would be considerably less than for a whole-term policy, but uniform while the policy continued in existence. There has been a great outgrowth within the past few months of life assurance schemes, under which the premiums vary from year to year, being calculated to do no more than meet in every year the current risk. To a policy in this form we have no root-and-branch objection if both parties to it clearly understand what the position is. But to the mode of advertisement which is adopted by votaries of the new system we see the strongest possible objection. Prospectuses have been brought recently to our notice in which tables constructed on this plan are given, and shown in comparison with other tables stated to represent the term of the ordinary assurance companies, in which are entered the premiums chargeable not only to cover the current risk, but also to purchase a right of *renewal at the same rate* during the whole continuance of the assurance. As *this right of renewal* forms no part of the contract which the issuers of the prospectuses in question offer to their customers, the comparison of which we speak is certainly very misleading, and indeed entirely without point except upon the wholly false assumption that what is offered by the one company is an equivalent of what is offered by the other. We trust that our contemporaries, when they do us the honour to quote our opinions, will be at the pains to quote them correctly, and, in particular, will not use general terms, which may seem, even though remotely, to connect us with schemes which, if we felt compelled to refer to them at all, we should notice only in terms of condemnation.

## RESEARCHES ON THE BLOOD IN DISEASE.

THANKS to the more exact methods of estimating the number of corpuscles in the blood and their richness in hæmoglobin, we are becoming possessed of a large amount of information respecting the variations presented by these elements in physiological and pathological conditions. The most recent contribution to the subject is by Dr. Carl Sadler, whose researches were pursued in the clinic of Prof. von Jaksch at Prague, and the details of which form a supplement to the *Fortschritte der Medicin* (vol. x., No. 4). The monograph contains the results of very numerous observations (made with the Thoma-Zeiss hæmacytometer and the hæmometer of von Fleischl) in cases of diseases of the blood, pneumonia, pleurisy, pericarditis, peritonitis, acute rheumatism, meningitis, scarlet fever, malaria, typhoid fever, peri-typhlitis, Weil's disease, puerperal "sepsis," tuberculosis, bronchitis, nephritis, morbus cordis, gastric catarrh and dilatation, carcinoma (of stomach mainly), sarcoma, lymphadenitis, syphilis, cerebral tumour, cirrhosis of liver, and cholera nostras—a lengthy list, covering a wide range of disease. The results are drawn up on a methodical plan, and are well worthy of study in each individual instance; but it must suffice here to cite the chief facts contained in the summary that closes the monograph. In acute diseases Dr. Sadler finds that there is constantly a decrease of red blood-corpuscles, but mostly not very marked. In chronic diseases the diminution is greater, especially in such as exhibit cachexia, and there is a proportionate diminution in the amount of hæmoglobin. An exception to this is met with in tuberculosis so long as nutrition is fairly well preserved. Nor does valvular disease of the heart, particularly mitral disease, affect the number of corpuscles. In chlorosis the corpuscles may long remain at the normal standard, whilst the hæmoglobin markedly falls, a confirmation of a well established fact. In other cases of anæmia, the essential form and those due to losses of blood, atrophy of stomach, and other causes, the decline in corpuscular richness takes place *pari passu* with that of the hæmoglobin. Acute and profuse diarrhœa produces a notable increase in the proportion of corpuscles and hæmoglobin, attributable to inspissation of the blood, and this may account for the apparent maintenance of a fairly normal standard in some cases of typhoid fever. Dr. Sadler found a diminution in the number of white blood-corpuscles in malaria, apart from the administration of quinine. Leucocytosis is proved to occur during digestion, and also during the puerperal period and the first days of lactation. Pathological leucocytosis is found in all diseases

accompanied by exudation, such as pneumonia and serous inflammation, including acute rheumatism, but not invariably. An explanation of the variation may perhaps be found in the different kinds of exudation that occur; whilst the leucocytosis itself has been explained by the absorption of "nuclein" set free from the disintegration of the exudate. Leucocytosis does not occur in uncomplicated typhoid fever, or in tuberculosis (except during the reaction produced by injections of tuberculin). It was present in only one-half of the cases of carcinoma examined, and had relation rather to the supervention of ulceration than to infection of lymphatic glands. Singularly, in contrast to carcinoma, leucocytosis is invariably present in cases of sarcoma, the reason for which is not at present obvious. Dr. Sadler did not find any increase of white corpuscles in cases of tubercular lymphadenitis which had not proceeded to suppuration.

## THE FEEBLE-MINDED.

THERE is a widespread class of people from whom personal sympathy is seldom withheld, but to whom, from restrictions in one way or another, the tangible charity of boards of guardians and other authorities cannot be extended. This is the class of persons who, in the technical sense of the term, are "feeble-minded." Investigations made on children in Board schools, the results of which are to form the subject of the Milroy lectures to be delivered in the course of this month at the Royal College of Physicians, and abstracts of which will appear in the columns of THE LANCET, have shown that the number of children comprised in this group is much larger than was formerly supposed. But no powers exist whereby boards of guardians can place them in suitable institutions. A deputation introduced by Dr. Farquharson waited upon Mr. Ritchie on Feb. 29th to point this out to him, and to ask his assistance on behalf of these poor creatures, who are from natural defects unable to maintain themselves by honest labour. Mr. Ritchie is always sympathetic in such cases, and the deputation was assured that their requisition was one of "no complication," but simply implied a small extension of the powers already existing with regard to the deaf, dumb, and blind. Personally, Mr. Ritchie has a strong leaning in the direction of rendering whatever assistance he legitimately can to the object which the deputation had in view, and their proposals will no doubt be very carefully considered. Of course there are questions which require thought; for instance, whether it is the best thing for the feeble-minded to be grouped together without association with others of strong minds, and, if not, the proposal of some alternative plan. No doubt these and similar points will be judiciously considered by Mr. Ritchie and his advisers, and we feel assured that in any event the objects of the deputation will be to a large extent realised.

## PTOMAINES IN THE URINE OF A PATIENT SUFFERING FROM EXOPHTHALMIC GOITRE.

DRS. E. BOINET AND SILBERT have obtained from the urine of a woman suffering from exophthalmic goitre, complicated with paralysis of the right arm and irregular action of the heart, several ptomaines which have produced in animals symptoms similar to those from which the patient suffered. The residue of the urine after evaporation injected in minute quantities into the vein of a rabbit's ear caused convulsions and death. In the frog it caused gradual slowing of the heart's action, followed by arrest in diastole accompanied by convulsions. By a modification of Gautier's method they have obtained from the urine, concentrated by boiling, two series of ptomaines—viz., ptomaines *A* by treatment with caustic soda, ptomaines *B* by treatment with oxalic acid. Each of the ptomaines, called after the agent by which it has been isolated, as amylic alcohol, benzine, or ether, is possessed of different properties, as shown by experiments upon rabbits, guinea-pigs, and frogs. The ptomaine *A* obtained by alcohol causes convulsions with slowing and feebleness of the heart's action, ending in arrest in diastole. The ptomaine *A* obtained by benzine causes more powerful convulsive movements, but its action on the heart is less marked. The ptomaine *A* obtained by ether caused at first increased muscular excitability, and, unlike the others in the *A* series, arrest of the heart in systole. The ptomaine *B* obtained by alcohol causes motor paralysis with a fall of temperature, a slight transitory increase in the force of the heart's contractions, followed by feebleness, loss of rhythm, and arrest in diastole. The ptomaine *B* obtained by ether causes slight convulsive movements and arrest of the heart in systole.

## SMALL-POX WARNINGS.

SMALL-POX is making insidious advances in a number of places, and at this season of the year the occurrence is one about which it behoves all sanitary authorities to be watchful. The disease has gained access to our shores in several of our port districts; and, whether from this cause or owing to infection from which we are rarely ourselves entirely free, the disease has manifested itself in some important centres of inland population. One of the latest warnings comes from St. Pancras, where, according to Dr. Sykes, seven cases of small-pox have occurred amongst waiters in hotels who have recently arrived from Switzerland, a country where the disease has for some time past been prevalent. Amongst the towns that have been the seats of small-pox on varying scales during recent months are Batley, Dewsbury, Leeds, Liverpool, Southampton and its vicinity, Great Yarmouth, Oldham, Nottingham, Huddersfield, and Cardiff, isolated cases alone having occurred in the two latter. At Dewsbury and Liverpool the disease continues without abatement.

## SO-CALLED "SPONTANEOUS COMBUSTION."

UNDER this title Dr. Hartwell records a curious experience which he had recently. He was one day hastily summoned into the woods while visiting a case in the outskirts of the town in Massachusetts, where he lives, the messenger announcing that her mother was burned alive. On reaching the place indicated a human body was found in an actual state of conflagration. The body was face downwards and resting on the forearms, the upper part of chest, and the left knee. The rest of it was raised and held from the ground by the rigidity of the muscles of the parts. It was burning at the shoulder, on both sides of the abdomen, and on both legs. As Dr. Hartwell reached the spot the bones of the right leg broke with an audible snap, allowing the foot to hang by the muscles and tendons. The right shoulder-joint was exposed, and the intestines protruded through the burnt abdomen. The unburned clothing consisted of parts of a calico dress, a cotton vest, woollen skirt, and thick red woollen under-garment. Apparently the woman—for it was a woman forty-nine years of age, active in her habits and strictly temperate—had been burning stumps, and her clothing had become ignited. Dr. Hartwell's view is that the flesh—in a condition of unusual combustibility—had then caught fire, and had been able of itself to support combustion, and this is all that he means by so-called spontaneous combustion—viz., an undue liability of the flesh to actually burn. His view as to this condition is that it depends upon the fact that human bodies occasionally do possess this increased combustibility by reason of an unusual deposition of fat, and that age and spirit-drinking are factors in that they aid in the accumulation of

fat. The interest of the case which he records he claims to lie in the fact that it occurred in a person of middle life, by no means obese, and not addicted to alcoholic indulgence.

## PARALYSIS FOLLOWING MEASLES.

DR. JAMES STRATTON CARPENTER records in the *Medical News* of Philadelphia this rather unusual condition. The patient was a female child of three who had a mild attack of measles. On the third day of the illness the mother noticed that she was breathing heavily, and could not be roused. When seen by Dr. Carpenter she was found to be feverish, breathing stertorously, and only able to be roused with difficulty from the stupor, into which she immediately relapsed. She was placed in a lukewarm bran bath, and the rest of the treatment consisted in the administration of what are described as "appropriate remedies." In a few days she was convalescent, but the first attempts at walking revealed weakness and dragging of the right leg. The right arm was also affected, but this had escaped notice, as the child was left-handed. There was no disturbance of what speech is present at that early age, and this was to be expected. During convalescence strychnia was administered in gradually increasing doses, and recovery was complete.

## THE SENSE OF EQUILIBRIUM.

OUR Vienna correspondent writes as follows:—At a recent meeting of the Vienna Society of Physicians, Dr. Kreidl, Professor Exner's assistant, reported on the experiments he had made on deaf-mutes concerning the physiology of the labyrinth. Touching the experiments made on this subject by Flourens, Goltz, Mach, and Breuer, he pointed out that the membranous canals of the internal ear should be regarded as the peripheral part of the mechanism of the sense of equilibrium, the sensations of the disturbance of which he takes to be produced by the flow of the fluid in the ampulla and in the membranous canals. If the views of physiologists on the function of the otoliths and the membranous canals be true, it would have been expected that anomalies of the sense of equilibrium should be found in deaf-mutes. Purkinje had previously observed that if a person is made to rotate on his own axis the eyeballs were moved to the side as in nystagmus. This in Dr. Kreidl's experiments was not observed in deaf-mutes to any very large extent. Dr. Kreidl from other experiments is led to regard the otolithic organs as a statical sense.

## THE LARYNGOSCOPE IN ENGLAND.

THE recent removal by death of one of the foremost laryngoscopists has revived memories of the early history of the laryngoscope and of its introduction into this country. The rival claims to priority in the actual invention of the instrument, which arose out of the endeavour to apply Garcia's discovery to clinical use, as between Türck of Vienna and Czermak of Pesth, need not be reopened. They were decided in the latter's favour by the perfection to which he brought the instrument, the use of which he himself demonstrated in London in 1859. This was the year in which Mackenzie visited Pesth, and became impressed with the value of the new invention as related in our notice of his life (p. 394). At the same time the credit of demonstrating the use of the laryngoscope in London, and of being early in the field in its published description, rests largely with the late Duncan Gibb and Prosser James; for in 1860 the first-named published his treatise on Diseases of the Throat, in which he recommended a steel mirror to inspect the epiglottis; and he subsequently translated some of Czermak's papers for the new Sydenham Society. Dr. Prosser James, also in 1860, gave laryngoscopical demonstrations at the City and Metropolitan Dispensaries, and published the first edition of his work on "Sore-throat," in which he embodied an account of the use of the laryngoscope, and its value in diagnosis and treatment. Although, then, it may be strictly correct to say that Morell Mackenzie first introduced it into this country, yet his published writings on the subject were some years subsequent to those of the two physicians, who, like him, ought to be remembered for their recognition of the importance of Czermak's invention and its utilisation in practice.

## VACCINATION.

AN inquest was held last week on the body of an infant who had died shortly after vaccination. The child had been vaccinated in the workhouse of the Wandsworth and Clapham Union twelve days after its birth. Three days after the operation the mother and child left the workhouse, and later the child's arm, it was said, was "highly inflamed." The medical superintendent of the workhouse was consulted and he recommended poultices, but the child died about a week afterwards. Dr. E. T. Smith, who had made a post-mortem examination, gave evidence to the effect that the child had died from congestion of the lungs and exhaustion, due to erysipelas following vaccination. The child had been taken from the workhouse when it was snowing, with only a thin shawl over it. It was stated that the erysipelas was set up by a chill, and that the vaccination had been properly performed. The so-called vaccination censuses have been taken under the auspices of the Society for the Abolition of Compulsory Vaccination in the parish of St. Paul's, Bristol, and at Gainsborough. In the former place the figures published are: total votes recorded 1380; in favour of vaccination, 352; against vaccination, 978; in favour of compulsion, 186; against compulsion, 1193. In Gainsborough the figures given are 2,002 votes against compulsory vaccination, and 181 for it. We are not prepared to attach any value to these figures, but if they should really betoken any desire to abolish vaccination in these communities, we can only lament the troubles which will eventually result. English people are, however, credited with being possessed of considerable common sense, and it may be expected that eventually they will understand the necessity of vaccination for the prevention of small-pox, and that opposition to vaccination will to a large extent die out, but perhaps only after disaster has attended its neglect.

## THE DEBATE ON PHAGOCYTOSIS.

THE discussion at the Pathological Society upon the doctrine of phagocytosis in relation to immunity seems to gain in interest and definiteness as it proceeds. The issues are becoming more clearly defined as the arguments for and against the doctrine are evolved. Dr. Bristowe, who spoke first at the meeting last Tuesday, did good service in recalling to the minds of his hearers the accepted facts of clinical observation respecting the infective diseases and the question of protection. He showed how difficult it was to explain the latter on any hypothesis yet advanced. Dr. W. Hunter did his best to reconcile the opposing views of the "phagocytists" and the "humoralists," thus adopting a term which reminds one of the controversies of a bygone pathology, and suggesting that after all the root problems of disease remain much the same now as then. Dr. Hunter maintained that the physiological relationship between the cells and the plasma was such as to support the phagocyte position, which had the further merit (not possessed by "humoralism") of novelty. His illustrations of experiments bearing on chemiotaxis, positive and negative, were criticised by Dr. Martin, who showed that they were inconclusive, owing to the inflammation set up by the sponge in-

troduced beneath the skin. Moreover, Dr. Martin, who was the chief speaker against phagocytosis that evening, adduced weighty reasons for believing that the changes to which immunity is owing take place in the blood and not in the solid tissues. On the other hand, Dr. Wright, whose lucid speech was an admirable contribution to the debate, candidly admitted that he had recently come round to the opinion that the bactericidal power of tissue-fibrinogen (with which he allied Hankin's "alexine") may best be explained by its acting as a cell stimulant. Mr. Adami and Mr. Bokenham also adduced facts tending rather to support the doctrine of immunity by phagocytosis; and altogether it may be said that many of the arguments advanced at the previous meeting were met by the "phagocytists," whose chief exponent, Dr. Ruffer, will open the adjourned discussion at the next meeting of the Society.

## EXECUTION BY ELECTRICITY.

WE are specially pleased to see that the State authorities in New York are about to reconsider the question of capital punishment by electricity, with a view to the abolition of that form of legalised taking of life. It was, indeed, high time for reconsideration. Since we last wrote on this subject another "electrocution" scene has occurred, with results even more revolting than any we have previously recorded. Our contemporary, the New York *Medical Record*, has joined its voice with our own in condemning this so called scientific executioner's work, and has cried "a halt in the revolting experimentation enacted at every execution." All the victims have been killed, it is true, adds our contemporary, "but how?" "In every case repeated strokes were necessary, with torturing intervals for discussion and disputation among the scientific experts; the grim tussle with death timed by stop-watches, while the victim was writhing between scorching electrodes. The details of this dreadful business transcend in cool brutality anything that can be imagined, and yet we are assured that this is the new and approved way of doing a victim to death." These are strong terms, but under the circumstances not one word too strong or too condemnatory. They surely will prevent any further medical participation in these unwholesome deeds. In this country, if medical art were degraded to such participation, the act would not only cause universal indignation against the offenders, but would force the profession at large to raise its powerful and humane voice in repudiation of any and every man in its ranks who dared to take a part in so grave an offence against the national conscience and professional honour.

## DEBT RECOVERY AND WATER-SUPPPLY.

A CASE was decided last Saturday at the Westminster Police-court which clearly shows the great inconvenience and injury which threaten the ratepayer who may from any mischance be unable to discharge his account with a London water company. The defendant, who seems to have been overcharged, refused to pay for water which he had not used. The company, not seeing the matter in this light, proceeded to enforce payment by cutting off his household supply, and for seven days—that is, until the hearing of the case in court—persisted in this course. Their attitude in the matter, though entirely legal, was severely criticised by the presiding magistrate, who regretted that none of the various Acts as at present constituted allowed consumers any guarantee against such a high-handed mode of procedure. He was strongly of opinion that the water-supply to any house should under no circumstances be terminable at the will of a company. Debt recovery should rather be arranged, as in the case of parish rates, by taking proceedings in a court of summary jurisdiction. In this opinion we concur. Whatever may be said of the commercial principle involved, it is indeed astonishing that no legal check should be placed upon the application of a process which prohibits the use of an absolute necessity of life and health. Water certainly can under no circumstances be dispensed with, and it is no mitigation to say that the sufferer by an adverse verdict may borrow sufficient for his temporary needs. It is not clear to our mind how he can even do this. Yet his necessities, his health and cleanliness, are intimately connected with the well being of his neighbours, and the case is one in which, if he suffer, others suffer by and with him. Some amendment of the existing law such as that above suggested is therefore evidently needful as a mere matter of sanitary requirement.

## THE EXAMINATION OF THE EYES OF SCHOOL CHILDREN.

DR. SYDNEY STEPHENSON has just completed and forwarded to the managers of the Edmonton School Board a report on the state of the eyes in the children of the Croyland-road school, Brettenham road school, and Garfield-road school, the last-named being at New Southgate, a short distance from London. The total number of children examined was 2873, of whom Dr. Stephenson informs us 1214 were boys, 885 girls, and 774 infants. Dr. Stephenson found that forty-seven children were suffering discharge from the eyes, the largest percentage, 2·95, being in the children attending the school at New Southgate, and he very properly points out to the governors that the presence of such discharge is a possible, or he might have said a highly probable, source of danger to other scholars, being capable, if passed from child to child, of giving rise to serious attacks of ophthalmia. He recommends accordingly that the board of management should give the teachers power to refuse admission into the schools of any child who was seen to have discharge from the eyes. Dr. Stephenson examined the defects in the refraction of the eyes in the children, the far larger proportion of which occurred in the Croyland-road school. He dwells strongly on the importance of good eyesight as the chief means of education, "many a case of so-called stupidity meaning nothing more than defective sight." He recommends that the name of any scholar who is observed by the teacher to see imperfectly should be reported, and proper measures taken to procure appropriate spectacles for him, whilst periodic testing of the acuteness of vision should be undertaken. Out of the total number of children there were seventeen who had strabismus.

## NEURITIS IN DIABETES.

IN the last number of the *Neurologisches Centralblatt* there is an abstract of a contribution by Eichhorst to the subject of the loss of the patellar reflex in diabetes mellitus. It is based upon the observation of two cases during life, and an examination of the nervous system after death. The first patient was a female, forty-five years of age, who had loss of knee-jerks, slight girdle feeling, no Romberg's symptom, and no ataxy. The urine contained a considerable quantity of sugar. The necropsy revealed atrophy of the pancreas and an unusually large size of the nuclei of the liver cells, but the central nervous system showed no change. In the crural nerves, however, and in the vagi there was a condition of well-marked parenchymatous neuritis. The sciatic nerves were more slightly affected, while the median nerves were normal. Similarly, in the second case, there was a widespread parenchymatous neuritis affecting the crural nerves and also the sciatics, while the median nerves were normal, and the central nervous system showed no change. The absence of the knee-jerk in diabetes, it is further said, is to be ascribed in some cases to a functional disturbance; in

others, as the above, to a change in the anterior crural nerve; and the curious statement is made that if the knee-jerk disappears and returns in the course of the illness, the cause is to be regarded as a functional disturbance. No one will deny that in such a case, granted the reliability of the observation, there is a disturbance of the function of the anterior crural nerve present. But so there is in the cases in which there is inflammation of the nerve, and it seems to us unwarrantable to assume that, because the normal condition becomes re-established, there may not have been a structural change in the nerve underlying the evidences which it presented of disordered function.

## SCARLET FEVER AT CARDIFF.

A GREAT deal of difficulty is being experienced at Cardiff owing to the failure of the sanitary authority to isolate cases of scarlet fever occurring under circumstances which demand isolation in the interests of the public health. In one instance a prosecution is threatened in connexion with this state of unpreparedness. One thing, however, is evident, and that is that such a town as Cardiff has no right to remain unprepared in such a matter. Some inhabitants advocate the immediate erection of a temporary hospital. It is so rarely that a temporary hospital is found to answer the immediate purposes for which it was erected, that we cannot but urge caution in this respect. What is wanted is a good permanent establishment, capable, if need be, of temporary extension to meet emergencies.

## INFLAMMABLE BUTTONS.

INSTANCES are not wanting, unhappily, of the perils arising from the use of easily inflammable material on articles of clothing; but the danger to which Professor C. Vernon Boys has recently called attention is certainly a new as well as an alarming one. It appears that a lady who was standing near a bright but not blazing fire suddenly found herself enveloped in smoke, and a gentleman who came to her rescue succeeded in crushing the ignited portion of her dress, not, however, without severely burning his hand. On investigation the fire was found to have originated from a spot where a large fancy button had been but had disappeared. Similar buttons were subsequently examined, and the results plainly went to show the danger of this style of ornament. The buttons appear to be composed of gun-cotton and camphor, a combination which is not only inflammable, but on the least provocation spontaneously so. It just happens that this unpleasant incident was not followed by any serious results, but that the consequences might have been of a disastrous character is patent to everyone. Experiments of a rough though practical kind made by Professor Boys proved to demonstration that buttons composed of such material were very susceptible to the heat of an ordinary fire, even outside the fender, and at a distance at which the skirts of a dress might any day be found. It is well known that "celluloid" has of recent years been largely substituted for the true material in the manufacture of ivory, tortoiseshell combs, hair-pins, and amber mouthpieces. Some little time ago we heard of a light being accidentally applied to what was presumably the amber mouthpiece of a tobacco pipe. The spurious amber rapidly and instantly ignited, and gave off abundant fumes smelling overpoweringly of camphor. One kind of celluloid is made, we believe, by dissolving 50 parts of gun-cotton in a mixture of 100 parts of ether and 25 of camphor, and evaporating the solvent from the resulting transparent jelly-like mass until it is plastic. It is then exposed in thin plates to the air until it is hard and capable of taking a polish. Billiard balls &c. are prepared by rolling several plates together and rasping the newly formed plate into a coarse powder. Pared potatoes, it is said, also yield a celluloid when similarly treated. The public are advised by Professor Boys to guard themselves from what is likely enough to be a grave source of harm, even to the extent of fatal issues, by taking the precaution of submitting to a very simple test not only buttons that resemble tortoiseshell, but hair pins, combs, and other ornaments, and even toys. On briskly rubbing the button on cloth, a strong smell of camphor is evolved. If this ready test fails, a small portion may be ignited; it will burn energetically with a flaring noise, and the fumes of camphor given off cannot be mistaken. If the article is composed of other material, the smell will probably bring to remembrance that produced on burning feathers. It seems to us that manufacturers have not the least justification for putting such dangerous articles on the market, particularly as we have reason for believing that by incorporating with the celluloid or similar substance made from nitro-cellulose (the product of treating cotton wool with strong nitric acid) a quantity of a metallic salt, such as chloride of tin dissolved in alcohol, ether, or other convenient solvent, the celluloid may be made non-inflammable and perfectly safe.

## THE SECRETION OF BILE IN URÆMIA.

IN order to elucidate the character of the secretion of bile in artificially induced uræmia, Dr. Lokianoff of Warsaw tied the ureters close to the bladder in twelve guinea-pigs, collecting the bile of six of these during the first day and of the remaining six during the second day of uræmia. He found, amongst other results, that uræmia tends to reduce the body temperature; as a rule, the liver increases in weight to a slight extent, the blood and the kidneys become richer and the liver and brain poorer in watery constituents, and the secretion of bile is rather less than normal. The production of hepatic tissue is diminished, especially as the uræmia progresses. The bile secreted is poorer in water and richer in solid matters than in the normal condition or in the first stage of starvation.

## THE COUNTY COUNCIL AND STREET NOISES.

THE occasion of another election of Metropolitan County Councillors has been fittingly chosen to bring before the public mind the noises, whether called musical or not, which keep the air of London in daily continuous and powerful vibration. Organ-grinders, Salvationists, newspaper criers, costermongers, and a host of evening traders take up in turn or in concert the glee notes of this clamorous medley. Householders, indeed, have long grumbled against the din, but so far the muffled thunder of complaint has been almost lost amid the shriller discords of their tormentors. Now at last objection finds a voice, and it is heard invoking against the nuisance the reforming energies of the coming municipal administration. It is not surprising that street organists have been specially selected as the objects of disciplinary training. Our readers will remember that last year Mr. Jacoby endeavoured to induce Parliament to restrain this nuisance. From some cause, however, whether on account of more pressing business or from a feeling that the law had already spoken to the point with sufficient clearness, the motion was not carried. We are among those who hold that this result was not entirely satisfactory. We feel that under present conditions the monotonous grinder, breadwinner of a sort though he be, certainly enjoys too much liberty. "Moved on" by the householder, he may return again and again to annoy the victim of his mechanical melodies. Disturbance of the sick, a point of much importance, or of occupation, will at all times justify his removal, but it is enough that he exhibits a technical conformity. This done, he and his opponent may repeat the performance with circus-like precision as often as desired.

Some remedy is clearly called for in the circumstances. What we ask for is not, indeed, the total repression of even the organ-grinder's calling, however acceptable to many this might be, but some power of compelling his retreat to a sufficient distance and of forbidding his return during the same day. A like right of restraint might well be exercised in the case of all other classes of street musicians, Salvationists and others, and of newsboys. Their position is by no means the same as that of ordinary tradesmen and costermongers, and such a power of controlling their enterprise as we have indicated may therefore very suitably and fairly be found for a long-suffering public by members of the County Council.

## SCARIFICATION OF THE OS UTERI IN CHLOROSIS.

DR. J. CHERON recommends scarification of the os uteri in chlorosis, and points out that this treatment has been highly spoken of by Schubert and others. The amount of blood to be drawn is about one gramme to every kilogramme of body weight. According to the above observers these slight bleedings greatly increase the number of red corpuscles and the amount of hæmoglobin in the blood. Dr. Cheron, in making use of scarification of the os in the treatment of old-standing disease in chlorotic patients, found that the general health as well as the local conditions improved. In many cases an analysis of the blood during and after treatment showed continuous improvement after each scarification. In chlorotic patients congestion of the womb is habitual, and it is easy to obtain forty to sixty grammes of blood at one operation. This local treatment seems likely to be of great benefit to chlorotic women, and it is easy to understand that it would be performed much more readily than venesection. The scarification, if done with antiseptic precautions, is not accompanied by risk.

## DIPHTHERIA AT MONMOUTH.

As the result of the investigation into the cause of diphtheria in the girls' high school, it is stated that only very trivial faults of sanitation could be discovered. This negative evidence as to matters of drainage is by no means unusual. It is now stated that the whole system of sewerage and drainage of the town is to be examined and reported on by an expert engineer. Whatever may be the relation, if any, between the present system of drainage and the diphtheria, it is to be hoped that the occasion will be utilised to put this and other matters relating to health on a more satisfactory footing than heretofore.

## ETIOLOGY AND PATHOGENESIS OF PERICARDITIS.

DR. ALFREDO RUBINO, editor of the *Riforma Medica*, has presented to the University of Naples, as a thesis for recognition as Lecturer on Special Medical Pathology, an interesting work on the etiology and pathogenesis of pericarditis, based on a large number of experimental observations which he has recently carried out in the laboratory attached to Professor Cantani's clinic. The general object aimed at was to ascertain whether simple injections of a suitable virus into the circulation are capable of producing pericarditis with or without some predisposing cause, such as an injury to the pericardium. Also whether such injections into the pericardial cavity, or the application of cold or other irritants alone, are capable of setting up pericarditis. First, a number of rabbits were subjected to injections into the venous circulation of pure non-diluted cultures of staphylococcus aureus and staphylococcus albus; but in no case was there any sign of pericarditis even as a secondary effect of violent inflammation in other organs; no multiple abscesses of the heart muscle, as described by Fraenkel as being produced under similar circumstances, were met with. When, however, the culture of pyogenic cocci was injected directly into the pericardium there was invariably pericarditis set up. Experiments were next made on animals which had been subjected to injury of the pericardium inflicted by the actual cautery applied over a small area of the external surface laid bare for the purpose, or by puncture with a carefully sterilised needle, these injuries not being of themselves sufficient to produce pericarditis. Here the injection of pyogenic cultures into the venous circulation resulted frequently in pericarditis. Similar results were obtained when the cardiac region had been reduced to a low temperature by the prolonged application of a bag containing ice and salt. Finally, blows on the thorax were shown to be capable of acting as predisposing causes, permitting the entry of pyogenic bacilli circulating in the blood into the pericardium.

## THOMSEN'S DISEASE.

Dr. C. L. DANA showed at a recent meeting of the New York Neurological Society a man thirty-three years of age presenting the typical phenomena of this disease. The family and personal history of the patient were good. At the age of seventeen weakness of the muscles was first noticed, and three years later the patient found that after clenching the fists he was unable to open them. The affection had gradually become greater and more extensive, until the only muscles not involved were those of the thighs and upper arms. The myotonia was most marked in the forearm and leg muscles, the tendon reflexes were only obtained with difficulty, and there was no sensory disturbance. The reaction to galvanism was slightly increased, that to faradaism normal. Dr. Dana expressed the opinion that the phenomena were confined to the muscles, and that the disease was a purely muscular one.

## FOREIGN UNIVERSITY INTELLIGENCE.

*Algeria*.—Dr. Texier, Professor of Medical Pathology, has been appointed Director.

*Breslau*.—Dr. A. Kast of Hamburg has been appointed to the Professorship of Medicine, with charge of the medical clinic.

*Giessen*.—Professor Konrad Eckhard, senior of the Medical Faculty in Giessen University, celebrates his seventieth birthday to-day.

*Halle*.—Dr. Graefe, Professor of Ophthalmology, though he had intended to retire at the close of the current winter session, has, in consequence of repeated requests on the part of both the Medical Faculty and the Minister of Instruction, consented to remain.

*Havana*.—Considerable excitement has been caused amongst the members of the Medical Faculty by a proposal of the Spanish Minister of Foreign Affairs to take away the power of the University to grant the degree of Doctor of Medicine, thus reducing it to the position occupied by Barcelona, Zaragossa, and other Provincial Faculties in the Peninsular which can only grant a licence, the Central or Madrid University being alone empowered to grant the doctorate. A petition has been got up in Cuba, and telegrams despatched to a number of influential persons in Spain begging them to endeavour to persuade the Government to reconsider their proposal.

*Madrid*.—Dr. Santiago Ramón y Cajal, Professor in the Faculty of Medicine of Barcelona, has been recommended by the jury, after competitive exercises, for the post of Professor of Histology.

*Stuttgart*.—Dr. Scheurlin has been recognised as *privat-docent* in Hygiene and Bacteriology.

*Vienna.*—In consequence of the illness of Professor Kahler, his assistant, Dr. Kraus, is delivering his lectures.

## DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Kopp, Professor of Chemistry in Heidelberg.—Dr. Moritz Altmann of Berlin, at the age of seventy-seven.—Dr. Vailhé, formerly *professeur agrégé* in Montpelier.—Dr. Francisco de P. Campá, Professor of Midwifery and Gynæcology in Barcelona.—Dr. Johann Wagner, Professor of Anatomy in the University of Kharkoff.—Dr. Barthez de Marmoriéres, a French authority on children's diseases, in his ninetieth year.—Dr. Hermann Aubert, Professor of Physiology in the University of Rostock. His investigations covered a wide range, and included much zoological work, physiological optics, the action of the heart, &c. He also wrote a pamphlet on "Shakespeare as a Doctor." He had been on the Rostock staff since 1865, having migrated thence from Breslau.

A MEETING of the Special Committee appointed at the request of the National Leprosy Fund to consider the report of the Leprosy Commissioners who have recently returned from India was held at the India Office on March 1st. As our readers will remember, the College of Physicians deputed Sir Dyce Duckworth and Dr. Heron, and the College of Surgeons Mr. Hutchinson and Mr. Macnamara, as their representatives, the Hon. G. N. Curzon, M.P., and Mr. E. Clifford being the members nominated by the Fund.

WE are informed that Frederick Needham, M.D. St. Andrews and Medical Superintendent of Barnwood Hospital for Insane, Gloucester, has been offered, and has accepted, the post of Commissioner in Lunacy, rendered vacant by the appointment of Dr. Thomas Clifford Allbutt as Regius Professor of Medicine to the University of Cambridge.

THE German Emperor has received the report of Professor von Bergmann on the building on the Langenbeck House, and has presented a bust of the late Empress Augusta, who was much interested in the enterprise and in medical affairs generally, as its first ornament.

MR. WYNDHAM R. DUNSTAN, M.A., F.I.C., F.C.S., University Lecturer on Chemistry, Oxford, and Professor of Chemistry to the Pharmaceutical Society, has been appointed Lecturer on Chemistry at St. Thomas's Hospital, in the place of the late Dr. Albert Bernays.

# Pharmacology and Therapeutics.

### DIURETIN.

GHILLANY calls attention to the property possessed by diuretin of absorbing carbonic acid from the air and so becoming insoluble. He recommends that for dispensing purposes a solution of the drug in distilled water should be kept in well-stoppered bottles.

### SOLUBILITY OF SALICYLIC ACID.

To increase the solubility of salicylic acid in water the addition of 1 part of acid to 100 parts of glycerine and 150 parts of water gives, it appears, the best results. This mixture is clear and miscible with water without any alteration.

### DERMATOL.

Glaeser, in his second communication to the *Centralbl. f. Gyn.*, 1891, on the action of dermatol, gives it as his opinion that it cannot take the place of iodoform. The latter gives especially good results in the treatment of suppurating wounds, with sloughing, whilst dermatol is recommended in the treatment of recent wounds caused by sharp instruments, and in healthy cavities after suppuration. Dermatol is also useful in laparotomy, in operations for prolapsus uteri, and fistula, and is of great service in the treatment of ruptured perineum immediately after confinement, and in plugging the uterus.

### METHYLENE BLUE.

A case of retinitis, due to acute Bright's disease, has been treated successfully with this drug in France by Dr. Gillet de Grandmont. He gave it to a patient whose urine contained a considerable quantity of albumen, in doses of two centigrammes three times a day. It caused a marked improvement, the renal symptoms abated, and the retinitis disappeared so rapidly that the sight was normal in four days. Was this a coincidence, or was the improvement due to the milk diet, which, in all the reported cases, has been strictly adhered to? Methylene blue is excreted by the kidney, and has the curious characteristic of turning the urine a deep green. Dr. G. Paul proposes to take advantage of this property to produce a moral effect upon hypochondriacs and malingerers. A dose of from five to ten centigrammes gives rise to decided colouration of the urine without causing any other symptom.

### EXALGIN IN CHOREA.

Dr. Löwenthal, in a recent number of the *Berliner Klin. Wochenschrift*, publishes the results of the treatment of chorea by this drug. Thirty-five cases were treated, and the results on the whole were good. In the majority of instances it was found that the sooner treatment was commenced after the onset of the illness the more efficacious was the drug and the more rapid was recovery, but in a few bad cases, in spite of a regular use of the drug, the patient became worse for the first two weeks, but improved subsequently. No severe toxic symptoms were produced, but in a few cases headache, malaise, and vomiting followed, and in three there was distinct jaundice. The dose given was usually from one and a half to three grains, and in most cases improvement followed after from sixty to ninety grains in all had been administered. The conclusion drawn is that exalgin, like many other drugs, is efficacious in chorea, but that it has no specific action in this disease.

### SALOPHENE.

Salophene, prepared by F. Bayer and Co., is a derivative of salol. It is obtained by treating para nitrophenol with salicylic acid, reducing the nitrophenol by means of zinc and hydrochloric acid into an amide, and acting upon this with acetic acid. Salophene contains about 50 per cent. of salicylic acid, and exists in the form of thin scales, tasteless, inodorous, and with a neutral reaction. It is almost insoluble in cold water, and only slightly so when warmed. Upon the addition, however, of an alkali it readily dissolves. It is very soluble in alcohol and ether. It burns with a smoky flame, leaving no residue. In the stomach salophene breaks up into salicylic acid and acetyl-para-amido-phenol. These substances are excreted by the kidney, and can be found in the urine. Salophene, owing to the presence of amido-phenol, is less poisonous than salol. According to Guttmann, it is a valuable remedy in articular rheumatism, given in doses of from four to six grammes a day in pill or in the form of compressed tablets.

### HÆMOL AND HÆMOGALLOL.

Hæmol and hæmogallol of Merck, prepared according to the directions of Kobert, are obtained from blood. Hæmol is a brownish-black powder, and hæmogallol a reddish-brown. The introduction of these substances into therapeutics rests on the fact that the derivatives of the colouring matter of blood, obtained by the action of reducing agents, have a hæmatopoietic action both in health and disease. They are given in capsules in doses of from 0·1 to 0·5 gramme during the day. Healthy persons are able to take as much as 1 to 5 grammes of hæmogallol. Hæmol contains traces of zinc left by design. The zinc is beneficial in slight lesions of the stomach, which might result in ulcer. Given in the form of hæmol the zinc loses its caustic action, and does not cause nausea.

THE LANCET

# Analytical Sanitary Commission.

## SECOND REPORT ON

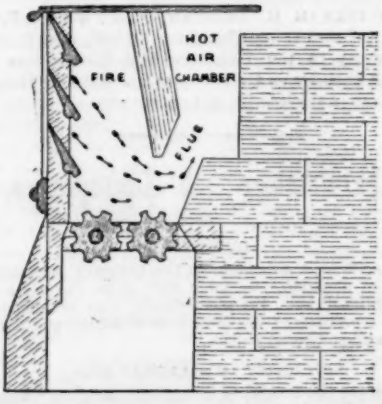
## PERFECT COMBUSTION AND SMOKE PREVENTION.

THE greatest and most important city in the world is offering at the present moment three problems of colossal magnitude for her people to solve. First, there is the better treatment of sewage with a view to its utilisation; second, the desirability of a more efficient and pure supply of water; and, third, the prevention of smoke and fog. The question of the disposal, though not the utilisation, of sewage was the subject of legislation some years ago, and the water-carriage system at present in use is the outcome of it. Successful as this system has been in effecting the mere removal of sewage from our dwelling-houses, on the principle of "out of sight out of mind," yet we are bound to admit now that, owing to excessive fouling and pollution, the river Thames, into which the sewage is discharged, and upon which we depend so largely for a supply of water, is fast threatening to become a deadly source of evil to the metropolis. All attempts to utilise what must one day prove to be the valuable agricultural constituents of human sewage have practically failed. An increased and purer supply of water for London is a subject which has lately been occupying the serious and earnest attention of the County Council. While, therefore, these two problems, from their pressing importance, have urged themselves upon the notice of our ruling bodies, the solution of the third—namely, that of dealing with the fog and smoke nuisance—has to a great extent been left to and taken up by enterprising individuals who are tempted by the promise of large returns to investigate this subject. The reply given by the Marquis of Salisbury to Viscount Middelton in the House of Lords three weeks ago contained but faint hope of the question being seriously taken up by the Government, although the noble lord expressed the opinion that only legislation of a drastic kind could be expected to deal adequately with the evil. There is promise now, however, of a select committee being soon appointed, and the chances are that such a body will arrive at the results of their inquiry with quicker despatch than if it were submitted to a Royal Commission.

The possibility of lessening to a very great extent the discomfort, not to say injury to health, occasioned by the frequent visitation of fog has long been a matter under discussion. London from climatic causes will always be subject to mist or fog, but it is surely unreasonable to suppose that it is impossible to devise a means whereby the quantity of soot with which our fires constantly load the heavy winter mists may not be to a great extent reduced. It must not be forgotten that unless our system of domestic heating becomes entirely changed we have for the nonce to deal solely with one kind of fuel—namely, common coal. Our supply of coal is practically as abundant as ever it was, and there is no reason to fear that our resources are likely to fail for years yet to come. This being so, it is to the improved consumption of coal as fuel that we must turn our attention, and to consider how far practically the evil of fog and smoke may be remedied by adopting grates of a certain construction as a means whereby perfect combustion and the production of smokeless and innocuous products may be ensured. One difficulty, however, would seem at once to present itself. If a grate were shown and demonstrated to be one which effectually consumes its smoke, only particularly drastic legislation, as the Premier expressed it, could enforce its general adoption. This would amount to a severe impost upon the people; but on the other hand, due regard must be paid to the fact that where perfect combustion takes place, and where, therefore, smoke and soot are not produced, there a distinct economy is also effected in the consumption of fuel. Soot, for example, represents, weight for weight, the fuel value of coal itself, seeing that, according to the analysis shown below, it contains no less than 70 per cent. of carbon. The economy, therefore, in fuel thus effected would contribute in no small degree to lighten the burden involved by the necessary outlay. It seems pretty well established, then, that as long as coal is to be our source of heat, and as long as the present system of utilising it as a source of heat is adhered to, we must look for a solution of the smoke and fog difficulty in the universal adoption of a grate that will burn the coal perfectly and economically, and yet be so constructed as to meet perhaps one of the most formidable of obstacles—namely, that of sentiment. It is hardly to be anticipated that a closed stove or a stove heated with gas or even electricity, however perfect its working may be, will ever replace the homely fire of glowing coals, which in the English mind will always lend a charm to the cold and dreary days and nights of winter.

With these views strongly impressed on our mind, it has always been of interest to us to scan from time to time that horizon upon which so many improved designs of the kind referred to appear, that we might study them, and submit them, if need be, to practical tests, and afterwards to give prominence to any device which we may find on experiment to give promise of grappling with the difficulty. Thus we may reasonably hope to render signal service to the great cause of public health. Last year (*vide* THE LANCET, March 21st, 1891, p. 682) we placed on record the results of our experimental trials with a stove invented by M. de Clausen, a Russian civil engineer. According to our experience this invention was the nearest approach to the great desideratum required in combustion; there was no escape of unburnt gases or of unconsumed carbon, the consumption of fuel was remarkably small, while the practical yield of heat was not far short of that demanded by theory. The principle, as it was then shown, could be applied to locomotives, marine boilers, and to furnaces for factory engines. The stove, being of the closed type, would probably be more favourably accepted as applicable to industrial and manufacturing purposes than for the purpose of domestic cooking or for heating drawing-rooms. In the early part of this year a newly designed kitchen range, said to consume its own smoke and to effect an important economy in the consumption of fuel, came under our notice. From an inspection of the plans which had been submitted to us we felt that the system was, at any rate, worthy of investigation, and it was decided to send one of our Special Commissioners to Bradford, where the range could be seen in actual operation, and where a series of experimental observations could be conveniently made. All this has been recently done, and the results gained form the subject of the present report.

The inventors and elaborators of this new system of firing, Messrs. H. Leggott and E. Marsh of Bradford, could hardly have hit, we imagine, upon a simpler arrangement than that shown in the annexed sectional plan, by




which perfect combustion and smoke consumption are said to be effected. It barely needs explanation. Let it be sufficient to point out the main differences existing between this and the ordinary range. Instead of rigid iron bars in the front of the fire there are to be found three iron "louvres," as they are termed, which

may be opened and closed exactly like a venetian blind by means of a lever outside. The bottom of the fire-box consists of two grooved or cogged rollers, which, turning inwards by a simple arrangement, serve to stir the fuel and remove ash. The space occupied by the arrows indicates the fire place proper, while they also show the direction taken by the incoming air. The fire chamber is divided into two parts by a fireproof septum of brick suspended from and fastened to a fixed iron plate at the top. The fireplace consists, in fact, of a V-shaped tube into which air is admitted *downwards* through what we may call, for the sake of explanation, "the venetian blind," or properly the louvres. The fuel is put in at the top, as in an ordinary range. The present experiments were conducted with a kitchen range

similar to that shown in the second illustration, but the system can be applied to almost any kind of furnace, such, for example, as those for heating large boilers, big ovens, hot-water apparatus, &c., and we believe that the inventors have recently constructed a stove and grate suited to the wants of a dining-room, drawing-room, or office.

The way the fire is lighted is instructive, and not without an element of interest, as it is done in a way exactly the reverse of the usual method. It was odd to see the paper, with the wood, placed on the top instead of underneath the coal. On lighting the paper the flames were almost immediately sucked powerfully downwards upon the wood, which in its turn ignited, and subsequently the underlying coal. In a very short space of time the fire was well alight, and the roar of the flame was surprising. The rate of combustion is under complete control by the joint use of the louvres and the dampers. As this was considered a moment favourable to the production of smoke—that is, soon after lighting—we proceeded to inspect the chimney. A thin, almost invisible, smoke in nearly imperceptible quantity was seen to issue. It ceased entirely after a few minutes, and, in fact, ceased for the day. Even this small production of smoke, consequent on first lighting, could be avoided by regulating the stove to slow combustion the last thing at night and charging it with a small quantity of fuel. The next trial was severe enough; indeed, to call it the *experimentum crucis* would be no misnomer. While the fire was burning brightly small coal along with dust was thrown upon the red-hot mass. Everyone is acquainted with the result of this procedure in an ordinary range; dense volumes of opaque smoke are produced, resulting from the partial distillation of the coal and the cooling down of the products as they are evolved into the air. As soon as the small coal was thrown on the fire the chimney was again watched, but scarcely a semblance of smoke was visible. This experiment illustrates excellently the theory advanced, amongst others, by M. de Clausen, that failure of combustion is due not to want of air but to the absence of a sufficiently elevated temperature, under which condition the combination of carbon with oxygen can only produce the complete product, carbonic acid ($CO_2$). No doubt the moment smoke is formed in this range it is dragged down with air through a red hot mass, where complete combination or combustion is effected. In both these experiments samples of the gases issuing from the fire up the flue were analysed. The results appear below. It is well to state at once that coal in small pieces, or "nuts," or even dust, is the kind of fuel best suited to the range. Lumps of coal such as we throw on our ordinary fires produce smoke because the existing temperature is for a time greatly depressed, being absorbed in part by the cold fuel and by the dispersion of its hygroscopic matter. In addition to the reduction of the heat temporarily, the thick bed of fuel impedes the draught, and sufficient air cannot enter to effect a consumption of coals adequate to the generation of the amount of heat required. The portion of air which traverses the fire is deoxidised by the ignited fuel on the bars, and no oxygen for a considerable period can come into contact with the mass lying upon that which is burning; but although in this way it does not contribute to the pyrometrical effect, the temperature of the ignited mass and the heated gases permeating it from below cause a distillatory change by which the whole of the available hydrogen, together with a large percentage of the carbon, is expelled as hydro-carbon gases, which escape combustion. When, on the other hand, the fuel is in relatively small particles, the oxygen of the air has a better chance of coming into intimate contact with every particle of fuel during ignition, and this being assisted by the ventilating action of the louvres, complete combustion is at the outset established.

The kind of coal used in the experiments made, and which is recommended in practice as best, is called in Yorkshire "smudge"—an inferior class of dust coal—and ordinary "nuts," or slack. The former is delivered in Bradford at 4*s.* 6*d.* per ton, and the latter at 12*s.* 6*d.* per ton. The samples were duly submitted to analysis, and the following results give some idea of their composition and quality:—

| | "Smudge." | | Nuts. | |
|---|---|---|---|---|
| Moisture .. .. .. | 4·40 per cent. | | .... 4·02 per cent. | |
| Carbon .. .. .. .. | 70·10 " | In dry coal. | .... 74·80 " | In dry coal. |
| Hydrogen .. .. .. | 5·20 " | | .... 4·94 " | |
| Nitrogen .. .. .. | 1·41 " | | .... 1·05 " | |
| Sulphur .. .. .. | 1·40 " | | .... 1·25 " | |
| Oxygen .. .. .. .. | 13·75 " | | .... 9.99 " | |
| Mineral matter .. .. | 8·14 " | | .... 7·37 " | |

Neither sample possesses qualities of special value; they contain a large proportion of mineral matter, although the quantity of sulphur is not excessive. The "smudge" is, as might be expected, less rich in carbon, contains a higher amount of useless oxygen and more mineral matter. The difference in quality between these coals and good house coal is apparent in the following analysis made on the occasion of a previous investigation.

| | | |
|---|---|---|
| Moisture .. .. .. .. .. .. | 4·12 per cent. | |
| Carbon .. .. .. .. .. .. | 79·95 | Per cent. in dry coal. |
| Hydrogen .. .. .. .. .. | 5·45 | |
| Nitrogen .. .. .. .. .. | 1·80 | |
| Sulphur .. .. .. .. .. .... | 2·00 | |
| Oxygen .. .. .. .. .. .. | 7·73 | |
| Mineral matter .. .. .. .. | 3·07 | |

Ordinary house coal is evidently richer in valuable carbon, contains a much smaller amount of mineral matter, and less useless or dead oxygen. The range is thus shown to be capable of burning the inferior kinds of coal, costing, when delivered in Bradford, 4*s.* 6*d.* per ton, which in normal times means about 12*s.* per ton at the London depots.

Turning next to the gases passing out of the flue, several samples were analysed on the spot directly they were entrapped. The gases were collected by means of an approved aspiratory arrangement, and in order to determine whether they contained any carbonaceous particles, a plug of cotton-wool was placed in the tube through which the gases were passing to the aspirator. At the conclusion of the experiments the wool was examined, and was found to have acquired a greyish-brown tinge, whilst no particles of carbon could be observed. If this experiment were repeated with an ordinary range, it is almost needless to add a plentiful deposit of sooty particles would be obtained. On analysing the gases the following results were gained:—

| | No. 1. Soon after lighting; gases taken from right hand damper. | No. 2. From same place; louvres closed; coal well alight. | No. 3. Gases taken from flue above mantel-shelf. |
|---|---|---|---|
| $CO_2$ .. | 1·00 per cent. | .... 2·00 per cent. | .... 1·00 per cent. |
| O .. | 18·00 " | .... 17·40 " | .... 18·00 " |
| N .. | 80·40 " | .... 80·60 " | .... 81·00 " |
| $SO_2$ .. | Traces | .... Traces | .... Traces |
| CO .. | None | .... None | .... None |

The low proportion of carbonic acid gas ($CO_2$) in these samples was, it must be admitted, disappointing. If complete combustion of coal is taking place one would expect to find a far higher proportion of this gas. In no instance, however, it should be remarked, was the presence of carbon

monoxide (CO), or sulphuretted hydrogen detected. The explanation of the small quantity of $CO_2$ was not far to seek. On account of the draught produced it was found, in spite of many precautions, that air was being admitted into the gases before they were collected, through the crevices incidental to the construction of a kitchen range and situated below the point where the samples were being taken. So the samples of gases analysed were evidently admixed with a large proportion of air. That this was the true explanation was confirmed by the fact that the flame of a lighted taper applied to the crevices was immediately sucked in by the in-rushing air. It was accordingly decided to collect the gases lower down, immediately over the fire, although the same difficulty of obtaining a fair sample, but to a less extent, presented itself. The following figures express the results:—

| | No. 4. Gas taken from immediately over fire; louvres well open. | No. 5. Gas from same place as last; louvres partly closed; fire recently repaired. |
|---|---|---|
| $CO_2$ | 9·00 per cent. | 7·00 per cent. |
| O | 11·30 ,, | 13·00 ,, |
| N | 79·61 ,, | 80·00 ,, |
| $SO_2$ | ·09 ,, | Not determined. |
| CO | None. | None. |

At once the proportion of carbonic acid $CO_2$ rises, and no doubt would rise still higher if the arrangement for sampling the gases could be made still more perfect. It is a significant fact, however, that in no single instance were incomplete products of combustion like carbon monoxide (CO) or sulphuretted hydrogen ($H_2S$) obtained. In addition to the above analyses samples of gases were brought to THE LANCET laboratory and analysed there, with the following results. They were all taken from just above the fire:—

| | No. 1. | No. 2. | No. 3. |
|---|---|---|---|
| $CO_2$ | 9·17 per cent. | 9·30 per cent. | 10·02 per cent. |
| O | 10·30 ,, | 10·68 ,, | 9·23 ,, |
| N | 80·53 ,, | 80·02 ,, | 80·70 ,, |
| CO | None. | None. | None. |

Next a sample of the deposit from the flues after the stove had been working several days was collected. The following analysis (No. 1) gives an idea of its composition; and that they may be compared an analysis (No. 2) of flue deposit or soot produced in an ordinary range is appended:—

| No. 1. | | |
|---|---|---|
| Moisture | 0·70 per cent. | |
| Carbon | 7·20 ,, | Per cent. in dry deposit. |
| Hydrogen | 0·23 ,, | |
| Mineral matter | 89·15 ,, | |
| Nitrogen (partly as ammonia) and oxygen | 3·42 ,, | |

| No. 2. | | |
|---|---|---|
| Moisture | 6·68 per cent. | |
| Carbon | 76·76 ,, | Per cent. in dry soot. |
| Hydrogen | — ,, | |
| Mineral matter | 16·68 ,, | |
| Nitrogen (ammonia) | 6·56 ,, | |

Now, as coal contains the same amount of carbon (from 70 to 80 per cent.) as the soot produced in the flues of an ordinary range, according to the results of the above analysis it follows that soot represents its own weight of coal or fuel lost and wasted. But the flue deposit produced in Mr. Leggott's range contains only 7·2 per cent. of carbon, so that it may fairly be assumed that the saving and utilisation of fuel from this cause are at least, and probably more, than 60 per cent. The deposit is greyish brown in colour, and appears to consist mainly of mineral matter derived from the ash of coal. This is an eminently satisfactory result, and demonstrates clearly not only the fuel economising effect of the system, but also that the production of soot is practically *nil*.

By reverting again to the illustration of the sectional plan the principle of the system may be examined, and an explanation be sought to account for this so far satisfactory action. The fire-box is V-shaped, and the air is admitted *downwards* through a mass of *small* glowing coal. Thus a sufficiency of the oxygen of the air is brought into intimate contact with the combustible constituents of the coal. This would effect at the outset complete combustion. But it is well known that $CO_2$ passing over more red-hot coal is reduced to CO, which, coming again in contact with oxygen at a *sufficiently elevated temperature*, burns into and reproduces $CO_2$. But whether or not carbon monoxide is first formed in this range, there can be no doubt that it is ultimately burnt completely into the dioxide, for in no single instance was carbon monoxide or other incomplete product of combustion detected in the effluent gases. The V-shaped arrangement would seem in some measure to play the part of a gas retort. The coal is distilled by the heat of its own combustion in the front limb, and the gases or distillation products are compelled by the draught set up to go downwards admixed with air, through an incandescent mass, out of which they emerge into the limb at the back, and now elevated to the required temperature, they are burnt, and complete combustion takes place. It is well known that perfect combustion can only happen when the in-rushing air is raised to a sufficiently elevated temperature. The combination of the right quantity of oxygen with carbon in a sufficiently elevated temperature can then only produce $CO_2$. A sufficiency of air and a proper elevation of temperature are conditions which Mr. Leggott seems to have secured by the adoption of the device which characterises his invention. The angle of the V acts as a smoke trap, and, being always incandescent, raises the mixture of air and hydrocarbons to that temperature at which only their perfect combustion can be effected.

It is stated that where these fires have been in use the saving in cost of fuel has been from 50 to 200 per cent. Our Commissioner made it his business while in Bradford to inspect a range fire that had been at work for some time in the kitchen of a coffee tavern where a large amount of cooking is done. This range is lighted at 4 30 A.M. every morning, and is kept going till eleven o'clock at night, and, in spite of constant work, it is declared to cost not more than 2*s.* 6*d.* per week—that is, with fuel costing, say, 5*s.* a ton. At the time of our Commissioner's visit all manner of cooking was going on, the fire was working perfectly, and no smoke could be seen issuing from the chimney, even when the severe experiment of charging with fresh small coal was tried. In the same establishment a steam boiler for heating purposes is worked on this principle and with similarly satisfactory results, both fires, it is declared, costing only 7*s.* 6*d.* per week for fuel, whereas before the boiler alone cost 15*s.* The range may be worked under perfect control, at a maximum or minimum heat, with equally good results as regards combustion. The maximum heat produced by suitably arranging the dampers and louvres is very great, the roar of the flames is remarkable, and probably the full pyrometrical effect of the fuel is obtained. Some heat is of course carried away up the chimney by convection, but it cannot be said to be wasted, for it is just this heat that is necessary to maintain an essential draught through the system. The coals can be seen glowing, and the roasting of meat in front of the fire, it is said, may be easily effected. A thermometer placed within six inches of the louvres showed a temperature of 320° F. (160° C.) Yet the rate of combustion can be so regulated that on putting a shovelful of coal on the last thing at night, the louvres and dampers being adjusted for slow combustion, a bright fire may be obtained in the morning in a few minutes by simply readjusting them. The trouble of lighting a fire is thus avoided, and the risk of a preliminary, though small and insignificant, escape of smoke reduced to a minimum.

## LUNATIC ASYLUM REPORTS FOR 1891.

*Glasgow Royal Asylum, Gartnavel.* — Dr. Yellowlees reports that the admissions of the year were entirely of the private class. "The admission of parish patients," he says, "has finally ceased, and the institution is now fulfilling its true function in affording the needful care and treatment to private patients from all grades of society, and in affording them to those of the least affluent classes at rates which would be impossible if profits had to be made and dividends paid." The recoveries numbered fully 38 per cent. of the admissions; and this is considered to be a satisfactory result, regard being had to the hopeless character of many of the new cases. The death-rate was 8·5 per cent. of the average number resident. Three died within a week of admission, and ten out of the forty-two deaths were referable to influenza and its complications. The following remarkable case recorded by Dr. Yellowlees is well worth special notice:—"A lady aged forty-four was admitted in January, 1876, labouring under melancholia, with delusions of dread and

suspicion, especially that her food was poisoned. In September of the same year her refusal of food became so obstinate and her resistance so determined that it was necessary to resort to the stomach-tube. Every attempt to feed her otherwise failed. She could not be made to swallow even a teaspoonful of water, but allowed it to pass into the air passages rather than yield; and she was fed with the tube three times daily till May, 1885, a period of *eight years and eight months*. During all this time she was very miserable, and kept continually repeating the doleful refrain, 'You're going to kill me; you're going to kill me. I know you're going to kill me.' The spell was broken almost by accident. Entering the ward when she was just about to be fed, I made another attempt with the spoon. In the struggle her chair was tilted backwards. In terror of falling she forgot for a moment to resist, and suddenly swallowed the spoonful of beef-tea I had put in her mouth. She seemed surprised and shocked, but the advantage, once gained, was followed up. By very slow degrees she was made to swallow all the beef-tea which had been prepared for the tube, and was then told that, having taken it once, she must take it always. Many a tedious struggle it cost the nurses, but at length they triumphantly reported that she had used the spoon with her own hand. From this point recovery, though slow and gradual, was uninterrupted. She refused to leave the infirmary ward and the nurses to whom she owed so much, became useful, cheerful, intelligent, and full of interest in others, and was discharged recovered in February, 1891, after a residence of over fifteen years. She is still quite well, and the recovery seems not only complete, but permanent."

*Aberdeen Royal Lunatic Asylum.*—Dr. Reid, the superintendent, reports that the average number resident was 630—202 private, and 428 pauper lunatics. The total number of cases under treatment was 840. The admissions numbered 226, being an increase of 1 on the number for the previous year. The discharges were 149, a percentage of 38·9 on admissions. The number of deaths was 45, or 7·1 per cent. on the average number resident. The following interesting case is given as illustrating the peculiar propensities of some patients. A female, aged forty, was admitted on June 23rd in a weak and emaciated physical condition, labouring under active melancholia, and with a fractured arm caused by her having thrown herself from the second flat of a tenement house. Great vigilance had to be exercised owing to her suicidal tendencies. Everything went on as satisfactorily as could have been expected until July 27th, when she was seized with great vomiting and pain in the epigastric region. Without entering on full medical details it may be briefly stated that, from the aforesaid date till the second week of October, the patient passed no fewer than 125 pins and sewing needles, with, in addition, many darning needles and hairpins; also a pair of spectacles in pieces and a crochet needle. Although she had lost much flesh, at the end of October recuperative power set in and she was slowly and gradually recovering both in body and mind, when an attack of pneumonia supervened, and she died on Dec. 13th. Dr. Reid points out numerous defects in the main structure of the asylum, and he says the directors of the asylum have been actively engaged for a considerable time past in investigating them. The Commissioners, while speaking highly of the ability and success with which the management is carried on under the many difficulties, hope that the new hospital block will be commenced without delay.

## THE EDINBURGH ASSOCIATION FOR THE PROMOTION OF REFORM OF MEDICAL EDUCATION.

THIS Association has presented a second statement to the Scottish Universities' Commission dealing with Draft Ordinance General, No. 10, and referring to the duties and emoluments of professors, lecturers, assistants, or other persons engaged in medical teaching in the University of Edinburgh. The statement points out that in 1831, after the institution of the present chairs of surgery and pathology, the number of professors in the University was thirteen, and that the number had remained at that until the present time. In 1831 there were 810 medical students, the number falling in 1845–46 to 330, but in 1889–90 it had risen to 2003. During the same period the range of subjects requiring the attention of students had risen from fifteen courses of lectures and four practical classes in 1859–60 to seventeen courses of lectures and thirteen practical classes in 1891–92. Owing to the number of students the practical classes have sometimes to be repeated eight times in the year. The increase in the range of study now necessary has arisen from the enormous development and differentiation of the medical sciences. Subjects which in 1831 were perhaps well within the grasp of a single teacher have now become a group of subjects, the due exposition of each of which requires the undivided energy of one person. Under the circumstances, it might have been expected that provision would have been made to give effect to the differentiation which has taken place within each subject, and to meet the need of instruction in the additional subjects referred to; but nothing of the sort has, in any thoroughgoing sense, been effected. Instead of differentiation, what has been done is the addition to the systematic lectures of practical and tutorial classes under the conduct of the single professors in each department, the result being that differentiation in teaching remains largely unprovided for, and that to a greater extent even than is carried out by the extra-mural school or by the smaller foreign universities.

The Association then points out that original research has fallen behind, and that the functions of a University are not merely to communicate the results of scientific progress made elsewhere, but to contribute to that progress by its own efforts. The increase in the demands made upon the professoriate has been met in other institutions by an addition to the professorial staff, but this has not been done in the Edinburgh University. In forty foreign schools specified by the Association there is on an average 25·6 professors in each school, against 12 professors in Edinburgh. Attention is further drawn to the fact that in Edinburgh (with 2003 students) there are twelve professors, while in Leipsic (with 944 students) there are 35 professors, and in Strasburg (with 353 students) there are 28 professors. These last, given in detail in the statement, are submitted as moderate examples of specialisation.

Between 1831 and 1892 four lecturers have been added—viz., Diseases of Children, Insanity, Ophthalmology, and Embryology. During the same time about thirty assistants have been appointed, towards the payment of whom the University Court has contributed £1150, while the professors subscribed £2812. These gentlemen have been appointed by the professor, and their dismissal has been in the hands of the professor of each department; they have no special University privileges and no voice in any University governing body. It thus follows that the University has worked its medical school by means of twelve professors (seven of whom are in private practice), five lecturers (of whom four are in private practice), and about thirty assistants, who do the main part of the practical work.

In respect of original research the facilities obtainable at the University are in most cases so defective that investigators are obliged to go elsewhere for working facilities which ought naturally to be found within the University.

The statement then proceeds to consider the financial conditions. The income of the medical side of the University is derived from (1) graduation and matriculation fees and (2) class fees. The former amount to about £8000 a year, and go to the General University Fund, the greater part, however, being returned for the expenses of the medical department. The class fees are paid to the professors directly, and in 1889–90 £23,259 8*s.* 4*d.* were thus received. The emoluments of professors consist of these fees, together with £1620 15*s.* 2*d.* from Endowment and the General University Funds, making a total of nearly £25,000, or a little over an average of £2000 a year. Out of this sum the professors paid in 1889–90 £4537 7*s.* 8*d.* for departmental expenses. The average net incomes of medical professors in the year 1886–87 were in Edinburgh £1620, in Glasgow £907, and in Aberdeen £645, while in the English Colleges and Universities the average is about £800 per annum, without retiring allowances. By the present system the professor in each department is the sole judge of how much money is to be applied out of his total fees for the payment of assistants &c., and how much is to be retained by him as his own income. The opinion of the Association is that this system should cease, and that the fees should accrue to the University and not be personal. The evils of

the present system are that some professors have enjoyed net incomes which bear no necessary relation to the work of their chairs, to the standard of corresponding emoluments in other Universities, or even to the incomes of their colleagues in other Faculties; it tends further to discourage the development of those higher branches of teaching which are not in themselves remunerative.

Professors' retiring allowances are next dealt with. The present arrangement is that a professor may, after ten years' service, retire on a pension of one-third of his income, calculated on the average of the five preceding years, and one-sixtieth more for each year up to thirty years, when he may retire on two-thirds of his previous income. The Association expresses the opinion that the mode of adjustment of retiring allowances is now felt to have been an unfortunate one.

Then follow the suggestions by the Association:—

1. That if any equitable means of adjusting the emoluments of the medical chairs can be devised so as to liberate a proportion of the fees for the general purposes of the school, those means should be adopted.
2. That if it prove to be necessary to ask for a special Parliamentary grant, in order to bring about this change without crippling the general finances of the University, every effort be made to secure such grant.
3. That the University Court should be empowered to make, upon the appointment of any professor, extra professor, lecturer, assistant, or other officer of the University, any regulation determining the amount and mode of his remuneration.
4. That the Commission recommend to the University Court that, in determining the amount and mode of the remuneration of any professor, extra professor, or lecturer, the Court follow the principle of allowing a fixed stipend and a proportion of fees, taking into consideration that the duties of some of the chairs are discharged in conjunction with private practice, which is rendered more lucrative by reason of the University appointment. Such remuneration should be subject to revision and readjustment at stated intervals.
5. That all fees paid by students for classes should be paid to an officer of the University Court, and should form a Medical Faculty Fee Fund, to be applied at the discretion of the Court, for the purposes of the Medical School.
6. That the University Court should, in their discretion, allocate the Fee Fund from year to year to payment of professors, of new professors, of lecturers, of assistants, of laboratory and research expenses; to the purchase of appliances for practical classes, and to the expenses of the same; to the payment of any contribution or quota by the Medical School towards the general expenses of administration: to the establishment of a Medical Faculty Reserve and Contingency Fund; to the establishment of a fund for the endowment of new chairs in the Medical Faculty; or to any other purpose incident to the due carrying on and expansion of the Medical School as a part of the University, which the University Court may find to be necessary or expedient.
7. That the University Court be empowered to appoint extra professors of medical subjects. The Association recommends that immediate attention be given to the establishment of extra professorships in the following subjects—namely, an additional Professorship of Anatomy, and also Professorships of Bacteriology, Histology, Chemical Physiology, and Public Health; and that the existing lectureships be raised to professorships.
8. That University lecturers appointed in the medical faculty by the University Court should be appointed for periods of five years, with independent University status, the use of University rooms, apparatus, and museums, and remuneration to be determined by the University Court. That no assistant to a professor should at the same time be a University lecturer. The Association recommends that provision be made for the teaching of surgical pathology, medical physics, pharmacology, and diseases of the tropics, if necessary, by the institution of separate lectureships, and that clinical lectureships be established in gynæcology, fevers, dermatology, and throat and ear diseases, the remuneration being determined according as the lecturer appointed is or is not at the same time engaged in private practice.
9. That the whole teaching staff be paid directly by the University Court.
10. That all teaching appliances and collections in the museum and laboratories should be the property of the University, and be maintained at the expense of the University.
11. That careful consideration be given to the question of avoiding undue increase in the aggregate cost of medical education, and that if the suggestions of the Association be adopted a readjustment of fees should be made.
12. That the accommodation in the New University buildings be readjusted and more fully utilised with the view of providing room for the new teachers proposed.

## THE LONDON HOSPITAL.

AT a meeting of the Court of Governors held at the London Hospital on Wednesday, March 2nd, it was announced that the house committee had unanimously decided, on the suggestion of the matron, to increase the holidays of the staff nurses to three weeks in the year instead of two as formerly, as it was now for the first time possible to do so without at all impairing the efficiency of nursing in the wards of the hospital. The chairman (Mr. Buxton, treasurer of the hospital), in moving the adoption of the annual report, referred to the attacks which had been made upon the committee in reference to the question of the nurses. He thought it unfair that a few governors should, against the judgment of a strong managing committee, insist upon some small changes being made. He detailed the statements which had been made by the critics of the action of the house committee in reference to the training of nurses. The training which the probationers received rendered them thoroughly well skilled at the end of their first year, but the certificate of competency was withheld from them until the end of the second year, so that the hospital might have for one year the advantage of their training. In the month of January applications were received from 395 persons for private nurses, of which only forty-two could be accommodated. Only in three instances had complaints been received, and these of a very trivial kind. The management of the London Hospital should be left to the house committee, who had very much more knowledge than the outsiders. No institution could be properly managed if every question of detail was submitted to hostile criticism. It was for the governors to stop it by supporting the committee which they had elected to manage the affairs of the hospital.—Mr. Hunter denied that any attacks whatever had been made on the London Hospital, but he complained that the nurses were overworked, and maintained that many changes were necessary to enable them to carry on the very important work which they had undertaken with justice to themselves and in a proper and efficient way with regard to their patients.—The chairman of the hospital, Mr. E. Murray Ind, said that the criticisms had been doing a great deal of harm to the poor people in the East-end of London by stirring up in the public mind a want of confidence in the management of the hospital. If that went on much longer it must divert from the hospital the funds which were absolutely necessary to carry on the work. Receipts last year fell short to the extent of £25,000. Taking the ordinary receipts and expenditure, there was a decrease of £10,000 as compared with the ordinary income of last year; a large portion of that sum was out of donations. The donations fell £4000 short of the sum of the previous year. This involved a responsibility which the committee did not consider they should be called upon to bear any longer. If the Court of Governors elected a house committee it must be on the clear understanding that the committee manage the hospital and nobody else.—Mr. F. C. Costello said it had been suggested that those who criticised the reports of the house committee should be prevented from attending the Court of Governors. The only process by which it would be possible to prevent any governor from raising any reasonable criticism on the reports would be by excluding him from the meeting.—Mr. Ind pointed out that the injurious criticism might be stopped either by the governors passing a vote of censure on the critics, or by passing a vote of confidence in the house committee.—The Rev. Dr. J. F. Kitto suggested that it was also a question of what was seemly or becoming. He moved, as a rider to the report: "That this Court of Governors of the London Hospital, in adopting the quarterly report of the house committee now read, desires to express its unabated confidence in the administration of the hospital, its warm appreciation of the services of the house committee, its cordial and hearty thanks to the officers of the hospital and to the whole nursing staff for their zealous and loyal coöperation with the house committee in carrying out so important a work."—The report and Dr. Kitto's rider were carried unanimously.—The Court then confirmed the appointment of Mr. Dean, F.R.C.S., as assistant surgeon to the hospital in place of Mr. Reeves, who had resigned.

## GENERAL PRACTITIONERS' ALLIANCE.

A MEETING of the council of the above Association was held at the offices, Adam-street, Strand, W.C., on the 26th ult., Mr. George Brown presiding.

The following registered medical practitioners were proposed and duly elected members of the Alliance:—Messrs. H. J. Butler, J. Gason (Rome), F. E. Flynn, John Murray (Folkestone), H. Pelham Webb, M.B., A. Wilson, M.D., and Edward Blake, M.D. The hon. treasurer (Dr. Hugh Woods) stated that, although no public appeal had been made for subscriptions, the sum of £23 2s. had been received

from members of the Alliance and friends towards the expenses connected with the candidature of Dr. Alderson and Mr. Brown in the recent election to seats on the General Medical Council. The hon. treasurer was instructed to convey the best thanks of the Committee to those gentlemen who had kindly contributed towards the election expenses. The President then stated that, this being the first meeting of the Council held subsequently to the complimentary dinner to Dr. Alderson and himself, he could not allow the occasion to pass without expressing his deep obligations to the Election Committee, and especially to Dr. J. W. J Oswald (chairman), Dr. Boyd (hon. sec.), and Dr. Hugh Woods (hon. treasurer), for the great services they had rendered to Dr. Alderson and himself, in promoting their candidature, and which had been successful beyond anticipation. Dr. Alderson expressed himself in similar terms. The President read correspondence with a practitioner in the north of England whose unregistered assistant was reported to be in the habit of signing certificates and appending to his name initials implying that he was duly qualified. The practitioner referred to explained that his assistant held qualifications from a Colonial university, and that he would see that he did not give similar certificates in future.

A letter was read from a provincial member expressing the hope that the Alliance would take some steps in regard to medical aid associations, which, he alleged, were doing serious injury to the practices of medical men in provincial towns. The President stated that he hoped to get information respecting the working of these associations to lay before the Council at a future meeting.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Bromsgrove Urban District.*—Monthly statistical returns, as regards any but large populations, are, as a rule, very imperfect indications of the true vital statistics of a community; but it may be noted that in Bromsgrove town, where influenza was very prevalent during January, the death-rate for that month reached 83·18 per 1000 living, that rate being only reduced to 71 per 1000 after correction for non-residents. The disease has, according to Dr. Cameron Kidd, shown distinct signs of abatement during the current month.

*Hove Urban District.*—On the population as taken at the last census, the death-rate for Hove during 1891 was 12·6 per 1000, the zymotic rate being 0·5 per 1000. Notification led to the discovery of 119 cases of infectious disease, of which 52 were removed to the useful hospital at Hangleton, where a new pavilion is in course of erection. As regards sanitary circumstances, we learn but little, except from a return of the inspectors of nuisances, Mr. E. S Medcalf's own report dealing almost exclusively with vital and disease statistics.

*Ulverston Urban District.*—The high rate of death during 1891—namely, 22 per 1000—was not due to ordinary zymotic diseases, for Dr. Thompson gives the zymotic rate as 0·7 per 1000 only. The water-supply is unsatisfactory, but is receiving attention; whereas the sewers, scavenging, inspection of slaughter-houses, lodging-houses, &c., are well looked after. With regard to influenza, Dr. Thompson gives his personal experience. He says it nearly cost him his life in 1857; he suffered again severely in 1890, and he has had three attacks during the past year.

*Kettering Urban District.*—The population of Kettering is now estimated at 20,000, having increased by 8360 during the last decade, and, happily, the death-rate remains as low as 14·6 per 1000; whilst the zymotic rate was only 0·3 per 1000 last year. Scarlet fever cases were reported every month, but by the constant and wise use of the isolation hospital it never made headway, and not a single death occurred from that cause. Typhoid fever has at times been somewhat prevalent in Kettering, and twenty-one cases were reported last year. Here, again, hospital isolation was successfully utilised, and the impure wells with which the disease was associated were closed. As to this, we would hope that increasing efforts will be made to get rid of these sources of danger before, instead of after, they have caused disease. Mr. Dryland has always pressed this point, and he does so again. We trust he will receive every support with regard to a sanitary operation so necessary to the health and well-being of this growing town.

*Carlisle Urban District.*—According to Mr. William Brown the death-rate for Carlisle during 1891 was 19·0 per 1000 living, the zymotic rate being 1·6, measles and scarlet fever being the main contributors to the latter. Scarlet fever seems to have been extensively prevalent for some time since. From March to December, 1890, 578 cases of this disease were reported, and last year the number was 564. Although the disease is stated to have prevailed chiefly among the working classes, yet only thirty out of the 564 patients were dealt with at the isolation hospital, and this was not because the hospital was otherwise in use, for the total admissions during the year only added eight more to the admissions from all causes. It is difficult to understand this, for it is stated that, as regards patients certified as proper for isolation, the expense of maintenance is—as it should be—borne by the authority. Mr. Brown, in dealing with other questions of interest, refers to the not unfrequent connexion between enteric fever and cattle manure, and he notes that forty-five cases of that disease came under his notice in the period 1882–87 as occurring in association with slaughter-houses, cow-houses, or tripe manufactories. It is difficult to appreciate the significance of this without information as to the general incidence of the disease during the same years on parts of the city not immediately bordering on such places; but the point is one to which attention has been elsewhere directed.

*Waltham Holy Cross Urban District.*—Mr. J. D. Priest has occasion to refer to some serious defects in the sewerage system, whereby sinking of sewers, retention of deposit, and other evils have been brought about. At the same time he reports that a good deal of sanitary work was done during the year. He strongly urges the provision of some means of isolating first attacks of infectious diseases, and of a disinfecting apparatus. On a population of 6060, the death-rate for 1891 was 16 per 1000 living.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6449 births and 4571 deaths were registered during the week ending Feb. 27th. The annual rate of mortality in these towns, which had declined in the preceding five weeks from 35·4 to 21·1 per 1000, rose again last week to 23·4. In London the rate was 22·4 per 1000, while it averaged 24·1 in the thirty-two provincial towns. The lowest rates in these towns last week were 14·2 in Croydon, 16·6 in West Ham, 17·8 in Huddersfield, and 17·9 in Brighton; the highest rates were 29·9 in Derby, 30·5 in Bristol, 32·9 in Halifax, and 34·0 in Burnley. The 4571 deaths included 426 which were referred to the principal zymotic diseases, against numbers declining from 607 to 383 in the preceding six weeks; of these, 155 resulted from whooping-cough, 123 from measles, 49 from diphtheria, 39 from diarrhœa, 31 from scarlet fever, 28 from "fever" (principally enteric), and one from small-pox. The lowest zymotic death-rates were recorded in Croydon, Norwich, Plymouth, Swansea, and Leicester; the highest rates in Bristol, Cardiff, Liverpool, and Wolverhampton. The greatest mortality from measles occurred in Sheffield, Sunderland, Liverpool, and Wolverhampton; from scarlet fever in Cardiff; from whooping-cough in Newcastle-upon-Tyne, Derby, Blackburn, Wolverhampton, and Bristol; and from diarrhœa in Preston. The mortality from "fever" showed no marked excess in any of the thirty-three large towns. The 49 deaths from diphtheria included 30 in London, 3 in Bristol, 3 in Sheffield, and 2 each in Manchester, Leeds, and Newcastle-upon-Tyne. One fatal case of small-pox was recorded in Liverpool, but not one in London or in any other of the large towns; 10 small-pox patients were under treatment in the Metropolitan Asylum Hospitals, but not one in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1198, against numbers declining from 1397 to 1216 at

the end of the preceding five weeks; 86 new cases were admitted during the week, against 117 and 82 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 1465 to 450 in the preceding five weeks, rose again last week to 460, but were 39 below the average. The causes of 105, or 2·3 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, Birkenhead, Oldham, and in four other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Preston, Huddersfield, and Sheffield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding five weeks from 27·2 to 20·1 per 1000, rose again to 22·8 during the week ending Feb. 27th, but was 0·6 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·6 in Leith and 18·6 in Edinburgh to 25·3 in Paisley and 25·6 in Greenock. The 635 deaths in these towns included 24 which were referred to whooping-cough, 16 to measles, 12 to diarrhœa, 9 to diphtheria, 5 to "fever," 2 to scarlet fever, and not one to small-pox. In all, 68 deaths resulted from these principal zymotic diseases, against 46 and 62 in the preceding two weeks. These 68 deaths were equal to an annual rate of 2·1 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 22 and 15 in the preceding two weeks, rose again last week to 24, of which 14 occurred in Glasgow, 5 in Aberdeen, and 3 in Greenock. The 16 deaths from measles showed a further increase upon recent weekly numbers, and included 14 in Glasgow. The fatal cases of diphtheria, which had been 1 and 8 in the preceding two weeks, further rose last week to 9, of which 4 occurred in Glasgow and 2 in Edinburgh. The 5 deaths referred to different forms of "fever" showed a decline of 5 from the number in the previous week, and included 2 in Glasgow and 2 in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 146 and 154 in the preceding two weeks, further rose last week to 165, and exceeded by 19 the number in the corresponding week of last year. The causes of 66, or more than 10 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·8 and 37·4 per 1000 in the preceding two weeks, further rose to 39·3 during the week ending Feb. 27th. During the first eight weeks of the current quarter the death-rate in the city averaged 39·6 per 1000, against 32·3 in London and 20·1 in Edinburgh. The 265 deaths in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 8 which were referred to whooping-cough, 7 to "fever," 3 to measles, 2 to scarlet fever, 2 to diarrhœa, and not one either to small-pox or diphtheria. In all, 22 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·3 per 1000, the zymotic rate for the same period being 2·5 in London and 1·2 in Edinburgh. The fatal cases of whooping-cough, which had been 3 in each of the preceding two weeks, rose to 8 last week. The deaths referred to different forms of "fever," which had been 1 in each of the previous three weeks, rose to 7 last week, and exceeded the number in any week during the current year. The 3 fatal cases of measles and the 2 deaths from scarlet fever corresponded with the numbers recorded in the preceding week. The 265 deaths in Dublin last week included 42 of infants under one year of age, and 84 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a further increase upon the numbers recorded in recent weeks. Three inquest cases and 6 deaths from violence were registered; and 73, or more than a fourth, of the deaths occurred in public institutions. The causes of 32, or 12 per cent., of the deaths in the city last week were not certified.

### CALCUTTA AND ITS AMALGAMATED AREA OF SUBURBS.

We gather from the health officer's report that the total number of births registered in Calcutta in October last was 731, giving an annual ratio of 18·8 per 1000, which is rather lower than the average. The total number of deaths during the same month was 1204, against 1041 in the preceding month, showing an annual ratio of 30·9 against 26·7 per 1000 of population. The monthly total exceeds all the corresponding figures of the past decade, and surpasses the decennial mean by 189. There were 185 deaths from cholera, against 82 in the previous month. This number is greater than the corresponding figures of the last ten years. There were no deaths from small-pox during the month under record. The deaths from fevers and bowel complaints were somewhat in excess of the average. There were 49 deaths from tetanus, against 80 in the previous month. Of these, 46 were under one year of age. As regards the local distribution of diseases, the sections of Hastings, Bamun Bustee, and Jorrabagan show the highest death-rates. The mortality of infants under one year of age reckoned on estimated births was 281·6, against 342·9 in the preceeding month, per 1000 per annum. In the amalgamated area of suburbs there were 350 births registered during the month, or in the annual ratio of 19·5 per 1000. The total number of deaths in October was 667, against 603 in the previous month, or in the annual ratio of 37·1, against 33·6 per 1000 of population. Of these deaths there were 61 from cholera, 284 from fevers, 120 from bowel complaints, and 34 from tetanus. There were no deaths from small-pox in the suburbs during the month.

## THE SERVICES.

### THE ARMY ESTIMATES.

THE Secretary of State for War has followed his accustomed practice in publishing a memorandum relating to the Army Estimates for 1892–93. The memorandum is only intended to summarise and explain a few details of the estimates, and we select from it a few points of interest. The amount asked for in the estimates shows a net increase of £85,900 as compared with last year. The proposed expenditure for 1892–93 is £17,631,300, of which £14,564,100 is for effective and £3,067,200 for non-effective service. The number of men in the Establishmemt shows no great variation. The Army Reserve is expected to reach during the year the large total of £78,000 men. The report of the Inspector-General of Recruiting shows the physique of the recruits to be satisfactory. The Volunteers show a marked increase in numbers, but the dearth of officers still continues. There is an increase this year upon the Works Vote amounting to £85,400, attributable to the urgent necessity for providing new ranges, and for the further carrying out of sanitary improvements throughout the barrack system of the country.

Surgeon-Colonel A. F. Bradshaw, C.B., has been appointed Principal Medical Officer to Her Majesty's forces in India, vice Surgeon-Major-General Thomson, about to retire.

Surgeon-Colonel A. C. Gaye has been appointed to the officiating medical charge of the Sirhind District, vice Surgeon-Colonel T. N. Hoysted, transferred to the Madras Presidency.

Surgeon-Colonel F. W. Wade has been appointed to the administrative charge of the Allahabad District, Bengal command, vice Surgeon-Colonel T. Walsh, transferred to the Oude and Rohilund District.

Surgeon-Colonel A. Allan has handed over his charge as Principal Medical Officer, North British District, and embarked for Bengal.

ARMY MEDICAL STAFF. — Surgeon-Captain Richard Edward Ricketts Morse, from the Seconded List, to be Surgeon-Captain (dated March 1st, 1892); Surgeon-Captain Norman Macbeth Reid retires from the Service, receiving a gratuity (dated March 2nd, 1892).—The surname of Surgeon-Captain P. J. R. Nunnerley is as now, and not as stated in the *Gazette* of Sept. 1st, 1885.

NAVAL MEDICAL SERVICE. — The following appointment has been made at the Admiralty:—Surgeon Herbert Canton to the *Victory*, additional, for study at the metropolitan hospitals and for Haslar Hospital (dated March 1st, 1892).

# Correspondence.

"Audi alteram partem."

## THE GRESHAM UNIVERSITY.

*To the Editors of* THE LANCET.

SIRS,—Permit me to make a slight correction in your excellent leading article on "The New University for London" in THE LANCET of this day. You say that in my "oft-quoted" letter I express the opinion that in the case of the "London diplomates" a clinical examination only would suffice. The words I used were "practical and clinical"—I mean "practical" in its widest sense—in the laboratory rather than in the class-room; in the laboratories of physiology, pathology, forensic medicine, and hygiene; in the dissecting and post-mortem rooms. The "oft-quoted" letter to which you refer, though expressly stated to be unofficial—as much so as this,—has received, most undeservedly, an amount of attention that is rarely bestowed upon official documents, and has been used with more ingenuity than ingenuousness in support of the contention that I advocated a lowering of the degree of M.D. in the new University. It has been attacked by the authorities of the Victoria University, it has been published in the appendix to a petition that has been presented to Parliament, and it has been so unfortunate as to meet with the disapproval of philosophers and scientists who, with little or no experience of medical education and its requirements, are quite prepared to legislate for it by what you truly term "impracticable schemes." And lastly, it has been used by writers in the daily press to make "political capital" against the Charter.

Those self-constituted champions of a "high standard," the authorities of the Victoria University and my friends the philosophers, persist in accusing me of seeking to lower the standard of education in respect to the medical degree of the new University. I most emphatically deny ever having had or having expressed such an intention. The charge is absolutely untrue. The "oft-quoted" letter on which it is founded had no reference whatever to the curriculum of the student qualifying for a degree in the University. It referred solely to the question of the admissibility of the "London diplomates" to examination for the M.D. degree, that examination being a final one from which all "preliminary science" must necessarily be excluded. What I did say was that a good qualification might be taken in the case of these diplomates as equivalent to the M.B, and that such a qualification was the M.R.C.S. and L.R.C.P., and I contend that this combined qualification is equivalent to the M.B. of any university in the kingdom, with the single exception of that of London, and possibly that of the Victoria University, of the relative value of which I regret to have to confess my ignorance; and that the London diplomates suffer under a real and substantial grievance in its not being so recognised.

It is absurd to speak of a "standard" in scientific or medical examinations qualifying for degrees. There is no such thing. Every university and medical college has its own "standard," determined by its own governing body, as will be the case in the Gresham University should its Charter—happily for medical education—be granted. Can it be pretended that the "standard" is the same in the University of London and that of St. Andrews, that of Cambridge and that of Glasgow?—in the Royal College of Surgeons of England and in that of Edinburgh, in the Royal College of Physicians of London and the College of Physicians and Surgeons of Glasgow? There is not only no uniformity in this respect amongst the different degree-giving and licensing bodies in the kingdom, but the standard will vary in the same institution at different times, according to the views of its Senate or Council for the time being. This is a question of statute or by-law, and not of charter. Which, then, of these "standards" am I accused of wishing to lower? That of London or that of St. Andrews?—that of Cambridge or that of Glasgow? But perhaps the true standard of excellence is to be found at Manchester, and there only.

I am, Sirs, yours very obediently,

Eastbourne, Feb. 27th, 1892. JOHN ERIC ERICHSEN.

*To the Editors of* THE LANCET.

SIRS,—In your notice of my little volume in your leading article in last issue you speak of me as advocating the "absorption of the governing bodies of the two teaching colleges and the ten medical schools into the Senate of the University." If you will re-examine p. 116 of my book you will find that what I say is: "That after the first constitution of the faculties no further appointment to College posts shall, *ipso facto*, make the holder a member of the faculties of the new university *in arts, science, or law*, but that the university shall itself nominate to its own faculties." This expressly excludes the Faculty of Medicine, which I am quite aware needs peculiar dealing with. I think this clears off the objections you raise as to the absorption of the medical schools. I am quite certain that no high standard will be maintained on the science and arts side of the proposed university unless the appointments are made by the governing body of the University itself. The powers of extra-collegiate lecturing must be extended if the University is not to present the absurd spectacle of being called "Gresham," but excluding all teaching done at Gresham College from its graduation courses. The Charter, as it stands, needs amending in the direction of wider powers of extra-collegiate teaching just as much for the sake of the highest as for the lower forms of work. It is the former which Sir Thomas Gresham originally intended to assist by his foundation.

My modifications (3) and (4) are especially intended to cut the ground from under the feet of far more serious opponents of the Charter than myself. You possibly, Sirs, have no idea of the parliamentary strength of the "Extension" and "External Medical Schools" oppositions. But unless these opponents are met by modifications in the House, and those I have suggested are the least feasible, I do not think the Charter has any chance of surviving. I believe that the only way for those who wish to see a Teaching University in London is to work for the modification of the Charter in such a manner as will really strengthen it, while disabling opposition. I have good ground for thinking that in pressing the Charter as it stands, you are destroying all hope of carrying it. So far as medicine is concerned, my modification (3) is the only one that touches it, and on your own showing this is practically accepted by the London members of the profession. If you do not want Manchester, Leeds, Liverpool, Bristol, and Birmingham to vote solidly against the Charter, you must be prepared to accept some modification of the kind I have suggested.

It is, Sirs, perfectly open to Parliament to petition that the Charter be *suspended* until modified, and I believe the only alternative to absolute rejection is suspension. If this be so, surely an influential journal like THE LANCET should work for the latter alternative.

I am, Sirs, your obedient servant,

University College, March 3rd, 1892. KARL PEARSON.

*** We did not say that Professor Pearson advocated "the absorption of the governing bodies of the two teaching Colleges and the ten medical schools into the Senate of the University," but that his second provision could only mean this. No one conversant with the composition of the governing bodies of the medical schools could have suggested such an obviously impracticable proposal. His method, which again is an impossible one, of dealing with the medical problem is stated in his appendix (p. 133). Professor Pearson has hitherto urged, without sufficient foundation, that the medical faculty intended to lower medical degrees. There are not, so far as we can see, any stronger grounds for his assertion that the professors in the two Colleges will not "maintain a high standard in arts and science." This seems to us most unjust to his colleagues in those faculties. We still believe that the Charter must be accepted or rejected as it stands.—ED. L.

## POST-MORTEM APPEARANCES OF THE BRAIN OF INFLUENZA PATIENTS.

*To the Editors of* THE LANCET.

SIRS,—Dr. Goodall's account of the post-mortem appearances which he has found in fatal cases of influenza at the West Riding Asylum forms indeed a singular contrast to the results which I had mentioned in a previous letter as obtained by Helweg of Aarhus. I think it will be interesting to your readers, in connexion with this, to be informed of the results of twelve necropsies of gripped patients made by Maillart[1] in the Cantonal Hospital of Geneva. In the first case there was great hyperæmia in the right hemisphere of the cerebellum, with hæmorrhagic spots, and complete softening of the medullary matter. In the second case there was found copious hæmorrhage at the base of the brain, proceeding from an aneurysm of the basilar artery, there being liquid blood in the right lateral ventricle, and granular ependymitis. In the third case the dura mater was completely adherent to the skull, and the pia mater thickened and strongly congested. In the fourth case there was acute non-suppurating lepto-meningitis; the pia mater showed strong œdematous infiltration at the convexity as well as at the base, the vessels being very turgescent. In the next three cases, where the patients, being previously consumptive, had died of rapid progress of the tuberculosis subsequent to the attack of grip, the condition of the brain is not mentioned. In the eighth case there was hæmorrhagic pachymeningitis, chiefly in the middle fossæ. In the ninth case there was general sub-arachnoid œdema. In the tenth case, which was that of a tubercular and alcoholised person, there was strong sub-arachnoid œdema. The left Sylvian artery was surrounded by a loose non-transparent tissue, and showed numerous miliary tubercles in its tract. On the right side the same lesions were found, although not so pronounced. There were a few miliary tubercles on the blood-vessels of the anterior surface of the pons and internal hydrocephalus. In the eleventh case slight subarachnoid œdema and lepto-meningitis with hyperæmia were discovered. Finally, in the twelfth case, the pia mater was found covered with a thick layer of greenish, thick, and ropy pus on its whole surface, at the base as well as at the convexity, and the membrane was strongly œdematous. The lateral ventricles were likewise found to be filled with the same kind of pus. Everyone must admit that such a series of records is very significant, and cannot be simply due to coincidence, more especially when it is remembered that the cases were not of inmates of an asylum, but of persons indiscriminately admitted for severe forms of grip into a general hospital.

I am, Sirs, yours faithfully,

Harley-street, Feb. 29th, 1892. JULIUS ALTHAUS, M.D.

[1] Étude Clinique sur la Grippe pandémique d'après les Observations recueillies à l'Hôpital Cantonal de Genève pendant l'Epidémie de 1889-90. Genève, 1891.

## RETRO-PHARYNGEAL ABSCESS.

*To the Editors of* THE LANCET.

SIRS,—I have read Mr. Pollard's paper in THE LANCET of Feb. 6th on Retro-pharyngeal Abscess with great interest. About ten weeks ago an infant aged four months was brought to me suffering from one. The history given was the following: The child had always been ailing, and from birth had difficulty in breathing, especially when asleep. On examination the fauces were congested, the tongue was furred, and the child presented all the symptoms of croup, for which I at first treated it. As the dyspnœa continued to increase I examined the pharynx, and found an elastic swelling behind the right tonsil, and extending laterally beyond the middle line and below, reaching to the upper part of the larynx. I opened the swelling through the posterior wall of the pharynx, inverted the child, and washed out the mouth. There was instantaneous relief. Three days after this I was hurriedly summoned to the child, as it was said to be dying. I found that the abscess cavity had refilled, and the dyspnœa was intense. A free opening was made into the swelling, and about a tablespoonful of fetid pus was expelled. The mouth was washed out twice daily, the child being inverted. There has been no return of the abscess, and the child is now in good health. I am of opinion that retro-pharyngeal abscess in infants is sometimes of syphilitic origin, and is not such a rare affection as Mr. Pollard imagines. Probably cases occur which are mistaken for croup, and treated as such, the error never being rectified.—I am, Sirs, yours faithfully,

Stamford-hill, N., Feb. 21st, 1892. DANIEL MOWAT.

## NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

*Hospital for Diseases of the Chest.*

THE annual meeting of the Northern Counties Hospital for Consumption and Diseases of the Chest at Newcastle has been held. The Mayor presided. The total number of patients treated has been 1084. The financial statement was satisfactory, showing a balance in the hands of the treasurer. Reference is made in the report to Koch's treatment for consumption, which was carried out last year at the hospital. It says that a special nurse was engaged, and careful notes were made of the course of the disease in those patients who were subjected to this treatment, who had been selected with a view of giving it the best possible chance of success. In this the medical staff had the coöperation of Dr. George Murray, through whom the supply of tuberculin had been received, and who brought it directly from Koch at Berlin, so that there could be no doubt as to its genuineness. The result of these and other experiments is that the opinion formed by the medical staff is unfavourable to its use in its present form, and that, while not denying that it may be of some service in a few cases, they consider that it was not of much practical value in the cases which came under treatment at the hospital.

*Gateshead Dispensary and Children's Hospital.*

The report of the Gateshead Dispensary, presented at the meeting held last week under the presidency of the Mayor, is a record of an enormous amount of work, as will be seen from the following figures: Patients treated by letter, 3537; casuals, including 249 accidents and 425 dental cases, 11,281. Thanks were accorded to the Hospital Sunday Fund and the Gateshead Dispensary ball committee, and the honorary medical staff and other officers were congratulated on the successful working of the charity. The Children's Hospital at Gateshead has also held its annual meeting. There had been a slight increase of patients, 82 in-patients as against 74 in the previous year; whilst 765 out-patients had been attended to. The financial statement was very satisfactory, the year closing with £153 in the hands of the treasurer on current account. Mr. William Rowland had given £300, and the late Dr. Benjamin Barkus, formerly of Gateshead, late of Newcastle, had bequeathed £300 to the hospital.

*Ambulance Work in the North.*

At Seaham Harbour Surgeon-Major Gibbon has commenced a course of ambulance lectures, with lantern illustrations by his son, Surgeon Fred. W. Gibbon, of the Tyne Dock Volunteer Engineers. There was a large attendance at this lecture, including most of the police force of the district. At Wooley also a public meeting, in connexion with the ambulance class has been held, and Surgeon-Major Hutton delivered a lecture. At this meeting a presentation was made to Dr. Dey (who had successfully instructed the class during the winter) of a handsome marble timepiece, with appropriate inscription, from the class. Mr. G. P. Hughes, High Sheriff of Northumberland, made the presentation.

*Epidemic of Diphtheria in the Houghton-le-Spring District.*

There has been a serious epidemic of diphtheria at Newbottle, in the Houghton-le-Spring rural sanitary district, and it has been under consideration to destroy all the books at the schools, which have been closed. Such destruction of books would mean a loss of about £100. Another suggestion is to disinfect them, and a new machine has come down from London which, although it weighs about one ton and a half, can be moved about from school to school to disinfect the books.

*North-Eastern Convalescent Home.*

The second meeting of the North-Eastern Convalescent Home has been held. This institution is for the benefit of the working classes of the friendly societies of the north-

eastern counties, and is supported and managed by themselves. It was shown that eighty-one patients had been received during the year, the majority being from Sunderland and other parts of the county of Durham It was stated that the new home at Grange over-Sands would be opened on March 3rd.

*"Coals to Newcastle."*

"Carrying coals to Newcastle" used to be a saying expressing the very superfluity of useless labour. It appears now that from some cause coals can be bought cheaper at Alexandria than they can just above their native mines. It is not so, however, as to gas, the net price of which is now under 1*s.* 8*d.* per 1000 ft. Our gas, however, as a light, is capable of considerable improvement, and our fellow-citizen, Mr. S. Macaulay, did good service at a meeting the other day by pointing out how our gas could be improved as an illuminant by a mixture with hydro-oxygen gas. It was manufactured from crude oils, which were refined during the process of manufacture by this gas. Mr. Macaulay said the fifteen-candle coal gas could be increased to twenty-candle at a cost of 3*d*, while the additional cost of coal gas to give the same power would be 8*d*.

Newcastle-upon-Tyne, March 2nd.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Edinburgh University Court and the Universities' Commission.*

AT the request of the Commissioners, the University Court has submitted a "Memorandum on the Financial Requirements of the University of Edinburgh." The document embodies reports from the several faculties and from the Science Degree Committee received through the Senators. The following are some of the memoranda which bear upon medicine, and are sufficient indication of the views of the Court. No new chair is asked for by the Faculty of Medicine, but the Faculty of Law suggest that if a claim of Public Health be formed, an adequate endowment should be provided for the chair of Medical Jurisprudence. Additional claims are made by the Faculty of Medicine on behalf of lectureships, as follows—viz., £50 for each of the following: Clinical Medicine, Fevers, Laryngology, Rhinology and Otology, Ophthalmology, Mental Diseases, and Diseases of Children; claims by the Science Degrees Committee include £150 each for Plant Pathology, Plant Physiology, Bacteriology and Embryology, and of £200 for Veterinary Hygiene. The several faculties as well as the Science Degree Committee suggest the institution of a number of new lectureships as the mode in which the teaching staff should be increased, and the Court agree generally with this. The Faculty of Medicine think that adjunct lectureships would be instituted within several of the professorial departments by conjoining lectureships with the duties of some of the assistants. Further additional claims are made for assistantships in the Faculty of Medicine, the present sum received being £1150, and the new claim amounting to £3410. As explaining this claim it is submitted that the professors have from time to time appointed such additional assistants as the increase in the number of students rendered necessary, and either paid altogether or supplemented the stipends out of their class fees. The same Faculty advance claims for laboratory and class expenses; at present they are allowed £381, and they claim £1909 The Faculty further suggest that, owing to the great educational value of research work, and its importance as a means of maintaining and increasing the success and reputation of the University, the Commissioners should establish a Research Fund, out of which grants might be made to the different departments in which original work is being pursued for the purpose of defraying the expenses incurred. It is also considered important to state that many of the professors have provided, from their private resources, apparatus and other appliances for improving and illustrating their teaching. The Faculty consider, if the method of payment of the professors be materially altered, that this outlay should be returned, and the articles secured for the University. From the foregoing it will be seen how much and how little have come from the Senatus and the University Court in the way of suggestion either as to improvement or advance in teaching and other matters in the University. It was the conviction of this which was forced upon those who are not of the thirteen professors that it was necessary to show what was required for the advanced and advancing scientific teaching and investigation in the medical sciences, and it was from them that the Reform Association sprang.

*Professor Ferrier in Edinburgh.*

Professor Ferrier, as Cameron Prizeman of the Edinburgh University, delivered a lecture in the Oddfellows' Hall on "Cerebral Localisation in relation to Therapeutics." Professor Fraser, in the absence of the principal, occupied the chair. The hall was crowded by students, and the lecturer was listened to attentively and frequently applauded. Later he was the guest of the evening at the annual dinner of the Royal Medical Society.

*The Edinburgh New Town Dispensary.*

The annual meeting of this valuable charity was held last week. During the year 9054 cases had been attended, of which 1925 had been visited at their own homes. The financial condition was satisfactory.

*Health of Edinburgh.*

The mortality last week was 85, and the death-rate 17 per 1000. Diseases of the chest accounted for 40 deaths, and zymotic diseases for 7, of which 2 were due to diphtheria and 2 to measles. The intimations for the week were: Typhoid fever, 2; diphtheria, 3; scarlatina, 16; and measles, 79.

*Royal Society of Edinburgh.*

At a special meeting of this Society, held on Monday, Professor Cossar Ewart made a communication on "The Cranial Nerves of Man and Salachians."

*Association for the Reform of Medical Education.*

Owing to Dr. Berry Hayeraft having resigned the co-secretaryship of this Association, Mr. Charles W. Cathcart has been appointed Dr. Berry Hart's co-secretary.

*The Physiological Department and Dr. Haycraft.*

Dr. Haycraft's connexion with this department ends with the winter session. Dr. Haycraft has not resigned, and, as he gave up a professorship elsewhere to come to the rescue of the University at a well-known crisis, much sympathy is felt for him.

Special subscriptions to the amount of £7000 have been raised for the purpose of increasing the Paisley Infirmary buildings.

It is stated that Lady Jane Dundas has announced her intention of giving £10,000 to the Edinburgh Hospital for Sick Children as a memorial of her sister, Lady Margaret Charteris, who died a few weeks ago.

Mr. John Phillips, M.A., M.D. Cantab., M.R.C.P., has been appointed Examiner in Midwifery to the Glasgow University.

March 2nd.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Banquet at the Royal College of Surgeons.*

MR. H. GRAY CROLY, President, has sent out cards for a banquet to be held in the College on Monday evening, the 14th inst., in celebration of the first biennial presidency. His Excellency the Lord-Lieutenant and a distinguished company will be present.

*Green-street Court-house, Dublin.*

An eminent sanitary engineer has certified that this court-house is unfit for human occupation, and the legal business has been transferred to the Four Courts until a new courthouse has been erected.

*Proposed Hospital for Consumption, Dublin.*

About £5700 has already been subscribed towards the building fund, which is over one-half of the sum required for successfully starting the hospital. The executive committee are taking steps to establish local committees throughout the country, and it is confidently expected that sufficient money will be subscribed to enable the building operations to be commenced early in the spring. I do not think there will be much difficulty in collecting the required amount for building the hospital—say, about £15,000,—but

it is possible the annual cost of maintenance—some £5000—may not be so easily obtained.

*Zymotic Diseases in Dublin.*

An impression has become rather prevalent of late that the mortality from zymotic diseases in Dublin is unprecedentedly high, but Sir C. Cameron has shown by statistics that the death-rate from contagious diseases is very much less than in the twenty-eight largest towns of England. For example, the zymotic death-rate of Dublin in 1887 was 4·5 per 1000, in 1888 it fell to 2·8, in 1889 to 2·3, in 1890 to 2, and last year, notwithstanding the prevalence of typhoid fever, to 1·6, or about one-half the rate in London.

*Census for the Province of Leinster.*

It appears from a recent return of the Census Commissioners that the number of inhabitants in this province by the last census was 1,187,760, or 7·1 per cent. less than in 1881. While in 1881 20·3 per cent. of the population were illiterate, in 1891 the percentage had fallen to 15·4. The births registered during the ten years ending March 31st, 1891, were 291,151, and the deaths 254,834, showing a natural increase of 36,317 in the population. The decrease in the population as shown by the census returns was 91,229, as compared with the previous return, a disparity in the results to be accounted for to some extent by the fact that no record of immigrants or of migration from one part of Ireland to another is obtainable.

*The Royal Hospital, Belfast.*

At the quarterly meeting of the supporters of the Royal Hospital, held on Feb. 22nd, a very satisfactory report of the financial condition of the institution was submitted. At the end of the last quarter the hospital was in debt £3015 15*s.* 4*d.* This is now paid, and a balance is in the hands of the treasurer. The Centenary Bazaar realised £3573 14*s.* 6*d.* Since the beginning of the last financial year (September) £1842 19*s.* has been received, this being an increase over the corresponding period of last year. During the past quarter there were 719 intern and 4516 extern patients.

*Queen's College, Belfast.*

Some time since a lectureship on pathology was established at Queen's College, and out of several candidates the Council, with the sanction of the Lord Lieutenant, have unanimously appointed Dr. W. H. Barrett, who in 1886 succeeded Dr. Sims Woodhead as senior assistant to Professor Greenfield of Edinburgh. Dr. Barrett has also been pathologist in the Edinburgh Royal Infirmary. Dr. Barrett will enter on his new duties on May 1st, and will conduct two classes—one of systematic and one of practical pathology, for which, as for laboratory and research work, rooms are in process of preparation in the medical buildings of the College.

*The New Consumption Hospital, Belfast.*

At an "at home" given by Mrs. Purdon (widow of the late Dr. J. H. Purdon) the plans were shown of this new institution, which is to be erected at Ballynafeigh. At the outset it has been arranged to have accommodation for twenty-four intern cases, and already a sum of about £6000 has been subscribed towards its erection. Considering the immense death-rate from chest diseases, and especially from phthisis, in Belfast, this new hospital will meet a great want.

*Health of Belfast.*

The first annual report of Dr. Whitaker, medical officer of health for Belfast, has been presented, and from it I learn that the Registrar-General in Belfast estimated the population of the urban districts too low, and hence during the last decade the death-rate was considerably over-estimated. In 1890 the death-rate was 29·5 per 1000 as returned by the Registrar-General, while the proper return was 26·7. During the fifty-two weeks ending Jan. 2nd, 1892, there were reported 340 cases of zymotic diseases, while in 1890 there where 614. The births for the year 1891 were 8650, the deaths 6537, the difference being a natural increase of population of 2113. Dr. Whitaker calculates the death-rate of Belfast for 1891 as 25·5, and the birth-rate as 33·7 per 1000, which is much in excess of the average of other large towns. Of the 6537 deaths registered during the past year 1017 were attributable to phthisis, whilst 1734 were due to disease of the respiratory organs. Dr. Whitaker refers to the following as some of the causes of the high death-rate of Belfast: 1. The dampness of the soil and air. 2. Flooding of the houses in some low-lying districts. 3. The existing system of privy and ashpit. Some 40 per cent. of the houses in the city have this vicious system. 4. The stagnation of the sewers and absence of flushing or ventilation. A great amount of low form of disease, Dr. Whitaker thinks, is caused in this manner. A ventilating shaft is now being tried as an experiment on one of the main sewers. 5. Unhealthy occupations principally affecting the respiratory organs. The dust of the flax, the staple trade, is a serious cause of bronchitis and phthisis. The dampness of the soil on which Belfast is built, combined with the very frequently moist atmosphere and the unhealthy occupation of many of the factory workers, predispose to chest diseases. 6. Foundations of too many of the houses are built on ground filled not only with mud, but sometimes with most objectionable material. During the past year many improvements have been made in the sanitary arrangements of the city of Belfast; but there is still room for improvement in many other matters, which Dr. Whitaker promises to bring from time to time before the Public Health Committee. A step in the right direction has been taken in the decision to clear out periodically (free of charge) all the ashpits in the city.

Mr. McGrath has been appointed joint secretary to the Royal University of Ireland in the vacancy created by the decease of Mr. Dunne.

In addition to the ordinary degrees conferred by the University of Dublin for Hilary Term on Tuesday, the 2nd inst., the honorary degree of Doctor of Laws was conferred on the Bishop of Derry and on the Lord Mayor of Dublin.

March 1st.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Polyuria in Sciatica.*

IN October last MM. Debove and Rémond called attention to the frequency of polyuria in cases of sciatica, and these observers believed this phenomenon to be attributable to an increase of arterial tension, consecutive to morbid excitation of the sciatic nerve. M. Huchard has since studied the subject, and he now announces[1] that, of ten such patients kept under observation, in the majority the quantity of urine excreted was rather diminished than increased. In three instances the polyuria noted was proved to be due to generalised arterio-sclerosis or to commencing renal sclerosis. M. Huchard agrees, then, with M. Lépine in considering polyuria rare in sciatica, and, going still further, deems the opposite condition—viz., oliguria—to be more frequently met with in very painful sciatica. Whenever polyuria is present he ascribes it, in the majority of cases, to a concomitant or intercurrent malady. M. Huchard appears to agree with the conclusions formulated some time ago by M. Hugonnard, a pupil of M. Lépine—viz., that moderate or strong stimuli brought to bear on the sciatic nerve diminish or even totally arrest the secretion of urine, while slight stimuli have the opposite effect of increasing such secretion.

*Mammary Abscess in the Newborn.*

The mammary engorgement observed in the majority of the newborn during the first few days of extra-uterine existence is now known to be a physiological phenomenon, accompanied by a milky secretion, which, after having lasted two or three weeks, generally subsides spontaneously. Recent analyses have proved that the liquid secreted is analogous to, if not absolutely identical with, woman's milk. In certain rare instances the swelling of the gland may proceed to suppuration, which, in the case of a female child, cannot but be regarded as an unfortunate incident. M. Comby[2] warns against the usual practice of artificially emptying the lacteal ducts in such cases, pointing out the double danger of destroying the gland altogether, or of inducing what it is meant to prevent—suppuration—by introducing through the medium of unclean fingers germs into the inflamed tissue. M. Comby recommends the covering of the tumefied part with emplâtre de Vigo (mercurial plaster), or, if that preparation prove too irritating, with the emplâtre rouge (emplastrum roborans).

[1] Soc. Méd. des Hôpitaux, Feb. 19th, 1892. [2] Ibid.

*Wanted, a Doctor!*

It is not only in England that the lamentable wave of immigration flows so steadily towards the towns, to the great detriment of the rural districts and of the country in general. This economic phenomenon is also a feature in French life, and in no class of society is it more marked than amongst doctors. The towns tend to be overstocked with them, whilst the country is insufficiently supplied with properly qualified men. The institution of the inferior diploma of *officier de santé*—a diploma now condemned by the new Medical Bill soon to become law—was designed to meet this difficulty; but the remedy has, by universal consent, proved inefficacious. The very moderate fees paid in country districts are probably responsible in the main for the sparseness of the medical population in such places. The following pathetic appeal for a medical man, which I extract from a Paris medical journal, is characteristic, and is confirmatory of the truth of the preceding remarks: "Vacances médicales.—Toute une population, d'environ 6000 habitants, répartis dans un rayon de 4 kilom. autour de la résidence, demande ardemment un médecin pour remplacer celui qui exerçait autrefois dans la localité. Il s'agit d'un pays admirablement situé, à 6 lieues de Rouen, dans lequel les visites aux indigents sont payées 2 fr. par le Bureau de Bienfaisance. Cette position conviendrait merveilleusement à un jeune médecin instruit et de parfaite honorabilité." Can we wonder that the French peasant falls so easy a prey to the enterprsing charlatan?

Paris, March 2nd.

## NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

*Electrical Executions made Public.*

THE law changing the method of execution of criminals in the State of New York from hanging to electricity required that the execution should be in the State prisons, and that only a few officials should be present. These officials were forbidden making any public statement of the details of the execution, and thus the newspapers were deprived of the opportunity of filling their columns with the over-wrought accounts of the sickening scenes which so interest the mass of readers. The reporters hovered around the prisons at each execution, but they learned so little that it was impossible for them to make an exciting story of the event. Not to be baffled in their efforts to utilise the exciting and entertaining scenes of an execution by electricity, the newspaper men have succeeded in having the law so amended that reporters are now admitted to the prison and allowed to describe with pen and photograph all of the revolting details. An execution has just occurred, and as a result of the new law the papers are filled with the most sensational statements and pictures which could be devised. The victim is fastened in the chair, the priest stands with prayer book in hand on one side, the chief executioner, a physician, on the other; the reporters, with pencils or watches in hand, stand near. The chief executioner explains: "We purpose to-day to vary the method employed here by making the contact through the hands instead of from the top of the head to the leg, as has been the custom heretofore. The hands will be placed in a salt solution in the two cells, and the current will pass directly through the chest. While we have many assurances that this method will be successful, we have retained the electrodes at the head and leg, so that if it fails to be satisfactory, a simple turning of the switch will turn the current from the head downwards as before." He added that this was an experiment. Everything being in readiness, the report states that the victim's voice, which had been low and hardly audible, rang out loud, and, with a wailing, struggling sound, dying away with the last choking utterance of a man in dreadful fright. "Let her go!" These were his last words; the current was turned on; the murderer bounded up with a powerful convulsive movement as if he would burst the bands; his chest arched out, and the strap which held it creaked with the strain; the face contracted on one side, as if expressing ineffable pain; the legs tugged at the straps, and one foot was drawn up sideways; the lips slowly opened and disclosed the teeth tightly clenched. At the end of fifty seconds the current was turned off, when the victim's chest slowly collapsed, with a wheezing, coughing, gasping sound from his lips, and saliva was blown from his mouth and ran down the chin. "Turn it on the other way," said the physician, when the body straightened up again with a jerk, the legs struggled in the straps, the chest was thrown out more powerfully than before; steam began to arise from the electrodes. In thirty-eight seconds the current was turned off, and the man pronounced dead. "I think every physician here," said the executioner, "will agree with me that the subject was dead, so far as his conscious being is concerned, the instant the first shock reached him. It is now apparent that he is dead muscularly also—that is, he is dead as an animal. If there is any physician who does not agree with this statement I wish he would say so." One of the physicians present said, "I agree that the man became unconscious at the first shock, but I do not agree with the test of it." Thus closed another act in the drama of "electrocution," and the public has been made familiar with the revolting details. The new method has not gained in popularity by this exposure.

***Russian Hebrew Immigrants Spreading Typhus Fever.***

New York is threatened with an epidemic of typhus fever through Russian Hebrew immigrants. Seventy-six cases have been found during the last two or three days in the lodging-houses provided for these immigrants by the United Hebrew Charities Association. These immigrants landed on Jan. 10th form a vessel from Naples and Marseilles. It appears that these typhus fever patients were only a small part of a shipload of Russians and Italians who had sailed from Marseilles about six weeks ago. They are part of a group of 1556 Russian and Polish Hebrews who sailed from Odessa to Constantinople four months since. They were suffering from the hardships of famine. The managers of the Baron Hirsch fund were going to send them to Palestine, but their condition was so distressing that the Sultan would not allow them to enter. Those who were too sick and exhausted to travel were left at Constantinople; others were sent to Argentine, and some to Marseilles to be shipped to the United States. Many were sent ashore at Napoli suffering from typhus fever, and 267 embarked for this country with 450 Italians. The health authorities are searching the city for these immigrants, and all the sick are immediately removed to the hospitals for infectious diseases on North Brothers' Island. The infected clothing is destroyed, rooms are cleansed and disinfected, and a constant watch is established upon all exposed persons.

*The Public Health of Chicago.*

Attention has lately been drawn to the continued high death-rate of the city of Chicago from typhoid fever. More importance is attached to this fact in view of the approaching World's Fair to be held in that city. A recent writer states that the statistics show that typhoid fever has materially increased in Chicago since 1880, and that within the last two years it has risen to an extraordinary height. During the year just ended there were 1977 deaths from typhoid fever, giving the prodigious death-rate for this disease of 16·64 per 10,000 of population, and a percentage of all deaths of 7·19. The cause of this remarkable prevalence of typhoid fever is not considered, but the paper quotes a significant statement of a former health officer of that city, "that the stream of filth coming through the city is a constant menace to the health of the citizens." At a late meeting of the Illinois State Board of Health a resolution was passed appointing Dr. John H. Rauch as a Special Commissioner to investigate the charge that Chicago is suffering from an epidemic of typhoid fever due to a polluted water-supply; and, in view of the widespread publicity of the said charges, and their probably damaging influence upon the World's Columbian Exposition, that the utmost expedition, consistent with thorough investigation, be urged.

Feb. 13th.

# Obituary.

## EDMUND SPARSHALL WILLETT, M.D., M.R.C.P.

WE regret to record the death, at the age of sixty-four, of Dr. Willett, part proprietor of Wyke House, the well-known private asylum near Brentford. Dr. Willett studied at Guy's Hospital and the Medical School at Bristol, became qualified in 1850, and a year later took the M.D. degree at

St. Andrews. At the outbreak of the Crimean War Dr. Willett joined the Medical Staff of the army, and was for some time attached to the 65th Regiment. At the end of the year 1855 he embarked with his regiment for the Crimea, but, falling ill at Malta with fever, he was invalided home, and thus his military career was cut short. After leaving the army Dr. Willett devoted himself to the subject of lunacy, and in 1856 he became the resident proprietor of Wyke House, his connexion with which was only severed by death, which took place on Feb. 20th at Gunnersbury House, whither he removed a few months since, leaving the management of the asylum to his partner, Dr. Murchison.

Dr. Willett was well known and very widely respected in his neighbourhood. He was a gentleman of the best English type, kind, generous, and hospitable. He had been a magistrate for the county of Middlesex for some years, and when the Local Government Act came into force the County Council of Middlesex elected him one of its aldermen. No private asylum stood higher in public estimation than that over which Dr. Willett presided for so many years, and it was well known that his patients were treated with all that generous consideration which hospitable Englishmen are accustomed to show towards their private guests. Dr. Willett was an ardent sportsman, and no one was more popular than he in the hunting field and at the covert side. As a magistrate he knew well how to temper justice with mercy, and his poorer neighbours all found in him a generous friend, ever ready to help them with money and good counsel. Dr. Willett's loss will be very seriously felt throughout his division of the county, for few men were more public spirited, and none more honest or outspoken in the discharge of duty.

## ROYAL COLLEGE OF PHYSICIANS.

A COMITIA of the College was held on the 3rd inst., the President, Sir A. Clark, Bart., in the chair.

A communication was read from Sir Dighton Probyn, conveying the thanks of the Prince and Princess of Wales for the sympathy expressed by the College in their recent bereavement.

A communication was read from the College Solicitors together with a statement of claim in the case of the Royal College of Physicians *v.* the General Medical Council.

A report of the delegates appointed by the Royal Colleges to consider a letter from the Secretary for War, in reference to the examinations for admission to the Medical Department of the Army, was read and adopted. It recommends the constitution of a joint committee which should appoint examiners from time to time.

A report from the committee of management respecting the financial arrangements for the five years' curriculum was adopted, and likewise one containing synopses of the examinations in Chemistry, Practical Chemistry, and Elementary Biology.

## THE PROPOSED GRESHAM UNIVERSITY.

A DEPUTATION consisting of representatives of various educational bodies, provincial and metropolitan, waited upon Lord Salisbury at the Foreign Office on Thursday, at three o'clock, to lay before him the reasons why, in their opinion, the Charter of the new University, now before Parliament, should be remitted to the Royal Commission for reconsideration.

Lord SPENCER, the Chancellor of the Victoria University, introduced the deputation, stating in a few words the grounds upon which he objected to the Charter, as at present framed, being granted. Principal Rendall, the Vice-Chancellor of the University, however, would place the details before his lordship.

Principal RENDALL said their objections rested substantially upon the ground that in their opinion the power of conferring degrees should be entrusted only to a University with faculties in arts and science as well as in medicine. The specific grounds of objection were the excessive prominence and undue ascendancy given to the medical faculty in the constitution of the proposed University. The principle of the Charter had really been to conciliate and consolidate the whole of the medical opinion in London, and to confederate all the medical schools in the metropolis, great and small, and whether perfectly or imperfectly equipped for the teaching of science, in order to secure the granting of this Charter. Special provisions had been introduced to give representation to the Royal Colleges and the Apothecaries' Society. A University so constituted was without parallel among the Universities of Great Britain. The degree-giving power had never been entrusted to any purely, or even to any mainly, medical body. Owing to the conditions of the profession, to its restrictions, and to the high pecuniary value attached to University degrees, that power had hitherto been very carefully safeguarded. The Victoria University was a good instance of that. Ten out of the twelve colleges possessed no means of teaching science beyond what was correlated to the science of medicine, and, of these ten, one was destitute of even the means of providing the slender modicum of science required for the University degree in Medicine. On these and other grounds he hoped that Her Majesty would withhold approval from the Draft Charter until it had been reconsidered in accordance with the recommendations of the Royal Commission.

Mr. JOSEPH CHAMBERLAIN, M.P., said he had been asked to appear on behalf of Mason's and Queen's Colleges of Birmingham, of the medical schools of Bristol, Leeds, Liverpool, Sheffield, and the medical department of Owens College, Manchester, and the representation was supported by the Members of Parliament of the respective districts. These bodies, he said, approved of the policy of creating a teaching university in London, but they objected very strongly to the Charter as it at present stood, as it would lead to the degradation of the medical degree in Great Britain, and seriously injure the prosperity of provincial colleges. He alluded especially to a recent speech of Sir George Young and a letter written and subsequently published by Professor Erichsen, suggesting that the Council of the new University would allow persons who possessed an ordinary qualification in medicine to obtain the degree on passing the final examination of the proposed University. It would undoubtedly take away many students from the provincial colleges, which stood higher than some of the colleges which were proposed to be made constituent colleges of the new University. It would be a strange anomaly if students could actually get a higher degree by attending institutions where they would get a lower education. These were the grounds on which the provincial colleges hoped that Her Majesty's Government would see fit to withdraw the Charter and give its provisions further consideration.

Lord DERBY appeared as Chancellor of the London University, though not in any official capacity, and pointed out some of the objections urged by that body against the Charter.

Mr. E. H. BUSK went in detail over much the same ground.

Other speakers, among whom was Mr. Bartley, M.P., representing various metropolitan bodies, laid their views before his lordship.

Lord RIPON, who represented the London Society for the Extension of University Teaching, gave an account of the foundation of this movement sixteen years ago by Mr. Goschen and himself. Now over 13,000 persons attended courses in the metropolitan districts, the most of whom were very anxious to obtain the highest education in the country, but had no means of study except that afforded by evening classes, and it was highly desirable to afford them opportunity of gratifying their laudable ambition. There was a certain number of these students who would be fully able to pass the examination for a degree. All that they asked in regard to this Charter was that power should be given to the new University to recognise the University extension system in its fullest sense, and that they should be able, if they thought fit, to give degrees to such students as proved themselves worthy of them.

Lord SALISBURY thanked the deputation for the important matter which had been placed before him with regard to the Charter. He would not venture to express either assent to or dissent from what he had heard, nor would he discuss it, because he was not in a position to criticise the statements of those who had more knowledge in this matter

than himself, and because the time left at his disposal was now very short. While thanking them for what they had laid before him, he promised to give it most careful consideration, so far as consideration was required by the Government. He wished to impress upon the deputation one point of great importance—that, so far as they were concerned, this proceeding was somewhat late. He imagined it should have been taken while the matter was still before the Privy Council. Several times in the course of the proceedings it had been mentioned that they should withdraw or revoke the Charter. He spoke with submission, but he very much doubted whether they had the power to do so. The Charter was now before Parliament, and it lay exclusively with the two Houses to say whether the Charter shall be valid or cease to be valid. If it became valid, he supposed it would be modified by the processes by which such charters were usually modified. No other authority but Parliament could interfere. Therefore, though he had been sitting there in a position of seeming authority, he had not, nor had his friend beside him (Lord Cranbrook), any more authority or power beyond that of any member of the House of Commons or of the House of Lords. No doubt members would bear in mind what had been said. But whatever was done, he hoped that the action would not be of such a character as to put a stop to educational development and growth of this kind, and that the door would be left open for the introduction of such improvements and extensions as would bring together all the educational power and enthusiasm in this metropolis in the common search after one end.

Lord SPENCER proposed a vote of thanks to the Premier, which was accorded, and the deputation withdrew.

# Medical News.

UNIVERSITY OF CAMBRIDGE.—At a congregation held on the 25th ult. the following gentlemen received the degrees of Bachelors of Medicine and Bachelors of Surgery:—

Sydney Kent, John Dixon Stubbs, Trinity; George Armstrong Mason, St. John's; Mark Robert Phipps Dorman, Clare; William Goodenough Hawkins Bradford, Gonville and Caius; William Henry Cantrell Shaw, Jesus; Francis Gore Wallace, non-collegiate.

UNIVERSITY OF DUBLIN.—The following degrees have been recently conferred:—

*Bachelor in Medicine, Surgery, and Obstetrics.*—Abel Onge Eastwood. James Langton Falkner, Rudolph William Johnston, John Henry Head, Alfred H. Holmes, James Elliott Jameson, Mark Thomas Kelly, Edward Vincent Legge, Mark McDonald, Thomas Haughton Murphy, George John Peacocke, Robert Hill Shaw, Alfred Ernest Taylor, Edwin Hotham Townsend.
*Bachelor in Surgery.*—Abraham William Bate.
*Doctor in Medicine.*—Cecil Orpin, Rudolph William Johnston.

THE SANITARY INSTITUTE.—A sessional meeting of the institute will be held at the Parkes Museum on March 9th, at 8 P.M., when a paper will be read on "The Air and Water of London: are they deteriorating?" by Louis Parkes, M.D., D.P.H., medical officer of health, Chelsea. The paper will be followed by a discussion.

HOSPITAL FOR CONSUMPTION, BROMPTON.—A quarterly court of governors of this useful charity was held at the hospital on the 25th ult., Mr. T. P. Beckwith in the chair. The Committee of Management, in their report, regretted that the whole of the 321 beds in the two buildings had not been continuously occupied, the return of the influenza epidemic having rendered it necessary to reserve seven large wards, into which any patients attacked were at once transferred and isolated from the others. This for some weeks prevented many admissions, but, owing to the subsidence of the epidemic, the beds kept vacant were now being rapidly filled up. A donation of 100 guineas had been received to name a memorial bed, as also a gratuity of £545 9s. from the Hospital Saturday Fund. Dr. Kingston Fowler (senior assistant physician) had been appointed physician, in place of Dr. Fred. Roberts, whose resignation, from pressure of other engagements, had been received with sincere regret, and who in recognition of his long and valuable services was appointed consulting physician. Several bequests were announced. The number of patients admitted since Nov. 26th was 386; discharged, many greatly benefited, 316; died, 94; new out-patient cases, 3325. The report was adopted.

UNSTAMPED MEDICINES.—At West Bromwich a druggist was this week summoned by the Inland Revenue authorities for selling on five different occasions patent medicines which were unstamped. He was fined £40.

PRESENTATION.—Dr. Wm. Main of The Park, New Ferry, Birkenhead, who is about to leave the district, has been presented by his friends and the inhabitants with an illuminated address and a purse containing £180.

SWINE FEVER AT SYDENHAM. — The Board of Agriculture have had notification of a severe outbreak of swine fever in Sydenham. Out of a herd of twenty-two animals, six have been attacked and one has succumbed to the disease. The whole herd will have to be destroyed.

SMALL-POX AT DEWSBURY.—About fifty patients are reported to be suffering from small-pox in the infectious hospital at Dewsbury. The General Purposes Committee of the Dewsbury Town Council have adopted a recommendation of the Sanitary Committee that the use of part of the mansion at Crow Nest Park should be granted during the prevailing epidemic as a temporary home for convalescent patients.

NEWSVENDORS' BENEVOLENT AND PROVIDENT INSTITUTION.—At the annual general meeting, held at the Memorial Hall, E.C., Feb. 2nd, it was unanimously resolved:—"That the best thanks of this meeting are due to the proprietors, editors, and reporters of the daily and weekly press for the generous support and publicity afforded to the affairs of this society." Sir Algernon Borthwick, Bart., M.P., who was recently elected president of this institution, has consented to preside at the annual festival, to be held at the Hôtel Métropole, on Saturday, May 21st, supported by a distinguished company.

GREAT NORTHERN CENTRAL HOSPITAL. — The annual meeting of the governors was held at the hospital, Holloway-road, last week. Mr. C. T. Murdoch, M.P., presided. The report for the past year showed an increase in the number of in-patients and a very large addition to the out-patients over the previous year, the largest aggregate of patients ever treated in one year. The expenditure exceeded the year's income by £1104 12s. 4d.. There was now in hand, for the completion of the buildings, £3000, and a legacy of the same amount would be shortly paid. The estimated cost of the work was £20,000. The report was adopted.

ROYAL FREE HOSPITAL.—The work of this charity during the past year has been carried on with great success, and, with one exception, its financial position, the annual report is highly satisfactory. The in-patients numbered during the year 1886, while 12,847 out-patients and 7878 casualty cases received the benefits of the hospital. The cash statement showed an adverse balance, amounting to £3280. To meet the current expenses, a portion of the invested funds had been utilised. The appeal up to the present for £20,000, to enable the front of the hospital to be entirely rebuilt, had produced about half that sum. The reconstruction of the drainage and provision against fire were now completed. The committee are applying for a charter of incorporation, and a draft charter had been approved.

THE EAST LONDON HOSPITAL FOR CHILDREN.—The thirteenth anniversary dinner of this deserving charity was held in the Whitehall Room of the Hôtel Métropole on Feb. 24th, at 7 P.M. The Right Hon. Lord Carrington, G.C.M.G., presided, and a large number of ladies and gentlemen were present. After the usual loyal toasts had been given, the chairman proposed "Success to the Hospital," and referred in some detail to the wasting of the institution and the way in which the funds were applied. Mr. Charles Cheston, who has made a most efficient chairman of the Board of Management for more than five years, replied in an able speech. Mr. Spencer Charrington, M.P., proposed the board of management, and Mr. H. W. Trender replied. Mr. Stanley Dent read an account of the financial condition of the hospital. Mr. W. H. Battle replied on behalf of the medical staff, a toast proposed by Mr. E. S. Norris, M.P. Mr. Cowell, a consulting surgeon, proposed the Chairman. During the evening Mr. S. Whitford, the secretary, stated that £334 had been subscribed towards a convalescent home, £121 towards the building fund, and £1500 towards the maintenance fund of the hospital.

COOKERY.—The sixth exhibition of the Universal Cookery and Food Association will be held at Portman Rooms, Baker-street, from May 3rd to 7th.

THE BURTON-ON-TRENT NURSING INSTITUTION.—The report for 1891 states that it had been a year of unusual sickness. The number of cases attended was 575, and the visits numbered 15,730—an increase of 61 cases and 5320 visits. The committee had distributed £18 in bonuses among the various district nurses.

MEDICO-PSYCHOLOGICAL ASSOCIATION. — At the next quarterly meeting of this Association, to be held in the Hall of the Faculty of Physicians and Surgeons, St. Vincent-street, Glasgow, on March 10th, at 2.30. P.M., Dr. Carswell will read a paper on "The Practical Difficulties of granting Certificates of Insanity and how they may be best overcome"; and Dr. Oswald will read a note on "Certain German Asylums."

IRISH GRADUATES' ASSOCIATION. — The annual general meeting of the Association will be held at 11, Chandos-street, Cavendish-square, W., on St. Patrick's Day, March 17th, 1892, at 5 P.M. The annual report will be presented, and the council will report its action in the matter of the Irish dispensary doctors' grievances, and the disabilities of Irish diplomates. On the same evening the Association will dine at the Holborn Restaurant at 7.30 P.M., Dr. James N. Dick, C.B., Medical Director General, in the chair.

SUSSEX COUNTY HOSPITAL.—The annual report for 1891 shows in comparison with the previous year a small increase in the number of in-patients and a large addition to the out-patients. During the year the finances had considerably improved by legacies received, which had enabled the committee to make substantial investments, and to add a sum of £2680 to the inalienable fund, whilst they had transferred £1037 to the available fund. The convalescent home continues to be a valuable auxiliary to the hospital, and the nursing institute is steadily growing in popularity and usefulness. The net profits show an increase of £142 2*s.* 4*d.* on the previous year. In the out-patients' department the refreshment bar had proved a great success.

LITERARY INTELLIGENCE. — Messrs. Churchill announce the early issue, in two vols. 8vo, of a Dictionary of Psychological Medicine, giving the definition, etymology, and synonyms of the terms used in medical psychology, with the symptoms, pathology, and treatment of the recognised forms of mental disorder, together with the law of lunacy in Great Britain and Ireland. The work will be edited by D. Hack Tuke, M.D., LL.D.—The second volume of the important work on the *Pathology of the Brain*, with clinical and anatomical studies, by Prof. Henschen, of the University of Upsala, will shortly be published by Kochler, Leipsic. The first volume appeared about two years ago, and was very well received. The work is abundantly illustrated.

## METROPOLITAN ASYLUMS BOARD.

*Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on March 1st, 1892.*

| Hospital. | Beds occupied. | | | | | | Total accommodation. |
|---|---|---|---|---|---|---|---|
| | Scarlet fever. | Diphtheria. | Typhus fever. | Enteric fever. | Other diseases. | Total | |
| Eastern Hospital .. .. | 186 | 61 | .. | 20 | .. | 267 | 442 |
| North-Western Hospital | 189 | 40 | .. | 11 | .. | 240 | 411 |
| Western ,, | 92 | 24 | .. | 6 | 1 | 123 | 224 |
| South-Western ,, | 186 | 42 | .. | 14 | 1 | 243 | 350 |
| South-Eastern ,, | 203 | 13 | 1 | 36 | 2 | 255 | 424 |
| Northern ,, | 306 | 15 | .. | 18 | .. | 339 | 480 |
| Totals .. .. .. | 1162 | 204 | 1 | 105 | 4 | 1476 | 2331 |

SMALL-POX.—South-Eastern Hospital, 1; *Atlas* hospital ship, 10

## MEDICAL NOTES IN PARLIAMENT.

*The Commission on Tuberculosis.*

IN the House of Commons, on Thursday, Feb. 25th, Mr. Chaplin informed Mr. Furness that the Royal Commission on Tuberculosis were still carrying on their investigations. Minutes of evidence had been printed for the use of the Commissioners, but had not yet been made public. He could not say when the investigations were likely to be concluded.

*Pollution of the Mersey and Irwell.*

This Bill, promoted by the Joint Committee of the County Councils of Lancashire and Cheshire for securing the purification of those rivers, was read a second time.

*Yellow Fever at Santos.*

On Tuesday, March 1st, in the House of Commons, Mr. Lawrence asked the President of the Board of Trade whether he was aware that the yellow fever at Santos had reached such a height that there was no one left to carry on business; that in consequence merchandise had accumulated to such an extent as to block the streets; that the epidemic had been aggravated by the authorities continuing to dredge the port.—Sir M. Hicks-Beach replied that the facts as stated in the question were substantially accurate. On Feb. 8th he had caused a notice to be sent to all daily papers, to the press agencies, and to Lloyd's, suggesting that, owing to the insanitary condition of Santos, no ships should be chartered for that port. He did not see that he could usefully take any further steps.

*Recreation Grounds.*

On the motion of Mr. Llewellyn leave was given to bring in a Bill to facilitate the provision of recreation grounds in rural parishes.

*The Gresham University.*

Mr. Bartley has undertaken to move that the Draft Charter of the proposed new University be not confirmed. It is understood that he will be supported by Mr. Mundella, Mr. Chamberlain, and other members of the House of Commons. In the course of the week a number of additional petitions praying Her Majesty to withold her assent from the Charter for the proposed Gresham University have been presented in the House of Commons. One petition came from Croydon, another from the Birkbeck Institution, and a third from the London Society for Extension of University Teaching.

*Mines (Eight Hours) Bill.*

When the second reading stage of this Bill is reached, Mr. Elliott Lees, one of the members for Oldham, will move "that this House declines to interfere with the freedom of grown-up men in regard to the disposal of their labour."

*Police and Public Health (Scotland) Bill.*

In the House of Commons, on Thursday, the Lord Advocate said it was the intention of the Government to introduce this Bill again. They hoped to do so in the course of a few days. The second reading must, however, depend on the condition of public business.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BEADLES, CECIL F., has been appointed Assistant Medical Officer to Colney Hatch Asylum, vice H. G. Shaw, resigned.

CAMPBELL, M. J., L.R.C.P., L.R.C.S. Edin., has been appointed Police Surgeon to the Essex-street and Brunswick Dock Bridewells, Liverpool, vice Arnold, deceased.

CLEGG, J. G., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Manchester Royal Infirmary.

COCKS, C. C., M.D. St. And., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Hillston, New South Wales.

CONNOR, SAMUEL, M.D. Irel., has been appointed Public Vaccinator for Coleraine, Victoria, Australia.

COSSHAM, W. R., M.D., C.M. Aberd., M.R.C.S., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

CRIPPS, E. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

FOSTER-FOSTER, F. F., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Lady Strangford Hospital, Port Said, Egypt.

FOWLER, O. H., M.R.C.S., has been reappointed Senior Surgeon to the Cirencester Cottage Hospital.

GODFREY, C. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Junior Medical Officer at the Ararat Lunatic Asylum, Victoria, Australia.

HALAHAN, SAMUEL H., M.B., B.Ch. Dub., has been appointed Health Officer for the Shire of Lowan, Victoria, Australia.

HICKS, J. S., M.D. Lond., L.S.A., has been appointed Government Medical Officer at Roebourne and Public Vaccinator for the North-west of Western Australia.

HOOKER, C. P., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the Cirencester Cottage Hospital.

HORROCKS, HERBERT, M.B., B.Sc. Lond., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., has been appointed House Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

KELLY, CHAS., M.D. Lond., F.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for the Horsham Urban Sanitary District of the Horsham Union, vice Kennier, resigned.

MACKINNON, C., M.B., C.M. Glasg., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

MCKAY, W. J., M.B., M.Ch., B.Sc. Sydney, has been appointed Resident Medical Officer to the Soho Hospital for Women.

MILLER, H. L., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon-Major to the Victorian Volunteer Force, Australia.

MORRISON, R. H., M.B., C.M. Edin., has been appointed Public Vaccinator for Oakleigh, Victoria, Australia.

MORLAND, C. H. D., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Cardiff Infirmary, vice Thomas, resigned.

PARRY, A. A., M.B. Melb., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Melbourne Benevolent Asylum, Australia.

PLATT, J. E., M.D. Lond., L.R.C.P., M.R.C.S., has been reappointed Resident Medical Officer to the Barnes Convalescent Hospital, at Cheadle, Manchester.

PRITCHARD, W. B., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Manchester Royal Infirmary.

RENNET, D., M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer to the St. Nicholas Parochial Board, Aberdeen.

ROBINSON, R. B., L.R.C.P., L.R.C.S., has been appointed an additional Public Vaccinator for the District of Christchurch, New Zealand.

SCOTT, C. C., M.B., C.M. Edin., has been reappointed Medical Officer for the Sixth Sanitary District of the Brentford Union.

SHAW, HUGH GROSVENOR, L.R.C.P., M.R.C.S., late Assistant Medical Officer, Colney Hatch Asylum, has been appointed Medical Officer to the Buntingford Union, vice H. S. Challenor, resigned.

SPENCER, W., L.R.C.P., L.M., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Borough of East Retford.

VARDON, A. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Northern Division of the Parish of Glenelg.

WITHERS, J. S., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Sale Urban Sanitary District of the Altrincham Union.

WOOLDRIDGE, A. T., L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer for the Harberton District of the Totnes Union.

# Vacancies.

***For further information regarding each vacancy reference should be made to the advertisement.***

BEDFORD GENERAL INFIRMARY.—Resident Surgeon. Salary £100 per annum, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £50 per annum, with apartments and board.

BRIDGEWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

CAMBERWELL HOUSE ASYLUM, Camberwell, S.E.—Junior Medical Officer. Salary to begin at £100 a year, with board, lodging, washing, &c.

CAMBERWELL PROVIDENT DISPENSARY, S.E.—Medical Officer.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238A, Gray's-inn-road, W.C.—House Surgeon.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS, Netherfield road and Grafton-street.—Resident Medical Officer at the City Hospital North, Netherfield-road, and at the City Hospital South, Grafton-street, at a salary of £100 per annum each, increasing £10 per annum to £120 as a maximum (subject to a contribution of £5 per cent. to the Superannuation Fund), together with board, washing, and lodging at the hospital in each case. (Apply to the Town Clerk, Town Clerk's Offices, Liverpool.)

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Board and residence and allowances for washing provided.

COUNTY ASYLUM, Whittingham, Preston.—Assistant Medical Officer. Salary £150 a year, with board, lodging, washing, and attendance.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary to commence at £85 per annum, with board, residence, and washing in the house. (At the end of year a gratuity of £15 is usually given by the committee.)

EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

EXETER CITY ASYLUM, Digbys, near Exeter.—Assistant Medical Officer. Salary £100 per annum, increasing by £10 annually to £150, with board, lodging, and washing.

HOSPITAL FOR WOMEN (LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants in the out-patient department.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN, Myrtle-street.—House Surgeon. Salary £85 per annum, with board and lodging.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Physician to in-patients.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Physician.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon.

NATIONAL DENTAL HOSPITAL, 149, Great Portland-street, W.—Anæsthetist.

NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W.—Surgical Registrar. Honorarium £20 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Junior House Surgeon for nine months. Salary at the rate of £60 per annum.

PARISH OF BERMONDSEY.—Analyst. (Applications to be addressed, "Application for Analyst," Town Hall, Spa-road.)

ROYAL BERKS HOSPITAL, Reading.—Assistant House Surgeon. Salary £40 per annum, with board and lodging.

ROYAL COLLEGE OF PHYSICIANS, Pall-mall East, London.—Milroy Lecturer.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Physician.

ST. MARK'S HOSPITAL FOR FISTULA &c., City-road, London, E.C.—House Surgeon for twelve months. Salary £50, with board and residence in the hospital.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SHEFFIELD UNION.—Resident Assistant Medical Officer for the Workhouse at Fir Vale, Pitsmoor. Salary £100 per annum, with apartments, rations, and the other usual allowances.

THE RETREAT, York.—Junior Assistant Medical Officer. Salary £80 per annum, with board, lodging, and washing.

TONBRIDGE UNION.—Medical Officer for the Third District of the Union. Salary £60 a year, with such extra fees sanctioned by the Local Government Board. (Apply to Mr. F. W. Stone, Clerk, Tunbridge Wells.)

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS AND EPILEPSY, 73, Welbeck-street, London, W.—Three Physicians. One Surgeon. One Surgeon for Throat and Ear. One Ophthalmic Surgeon. One Dental Surgeon.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon. Salary £50 per annum, with board and residence in the hospital.

# Births, Marriages, and Deaths.

## BIRTHS.

GODFREY.—On Feb. 23rd, at Ventnor, I.W., the wife of H. W. Godfrey, M.D., M.R.C.S., of a son.

HEATHERLEY.—On March 1st, at New Ferry, Cheshire, the wife of Francis Heatherley, M.B., B.S., F.R.C.S., of a daughter.

LUSCOMBE.—On Feb. 22nd, at Cromer House, Teddington, the wife of Thomas Benjamin Luscombe, L.R.C.P.E., of a son.

NEWBOULD.—On Feb. 28th, at Abbots Bromley, Staff., the wife of Newton J. Newbould, L.R.C.S., L.R.C.P.E., of a daughter.

PINCOTT.—On March 1st, at Calverley-parade, Tunbridge Wells, the wife of James C. Pincott, M.R.C.S., of a daughter.

RIGDEN.—On Feb. 27th, at Burgate, Canterbury, the wife of Brian Rigden, M.R.C.S., of a son.

## MARRIAGES.

GREEN—CROWDY.—On Feb. 25th, at St. Giles's Church, Reading, Edward S. Green, M.D., of Woodside, Croydon, to Elizabeth Selina, second daughter of the late Hon. Charles Crowdy, M.L.C., of St. John's, Newfoundland.

JOHNSON—MAXWELL.—On Tuesday, Feb. 2nd, at Holy Trinity Church, by the Bishop of Sierra Leone, assisted by Archdeacon Robbin, O. Johnson, B.A., M.D. Edin., M.R.C.S. & L.S.A. Lond. (Associate of King's College, London), to Mabel Emily, daughter of the Rev. Th. Maxwell, Retired Chaplain, late of the Gold Coast.

MOORE—MCILWRAITH.—On March 1st, at St. Peter's Church, Cranley-gardens, Stephen Henry Moore, M.R.C.S., of Sydney-street, S.W., Medical Superintendent, Chelsea Infirmary), to Effie, daughter of John McIlwraith, of Melbourne.

ROBSON—BROWN.—On Thursday, Feb. 25th, at Ingleby-Arncliffe, Robert Barker Robson, M.B. Durh., M.R.C.S. Eng., Alnwick, to Constance Beatrice, youngest daughter of Douglas Brown, Esq., Q.C., Arncliffe Hall, Northallerton.

SANDERS—DARNELL.—On March 1st, at St. Paul's, York-place, Edinburgh, by the Rev. D. Darnell, Vicar of Welton, Northamptonshire, grandfather of the bride, assisted by the Rev. Rowland Ellis, Rector of St. Paul's, Gordon Sanders, M.B., elder son of the late W. R. Sanders, Professor of Pathology in the University of Edinburgh, to Georgina Frances, eldest daughter of the Rev. Charles Darnell, of Cargilfield, Trinity, Edinburgh.

TOWNSEND—STEAVENSON.—On Feb. 25th, at Holy Trinity Church, Darlington, Francis Edward Townsend, M.D., of Normanby, Cleveland, eldest son of Edward Richard Townsend, M.D., Professor of Medicine, Queen's College, Cork, to Annette Therese, eldest daughter of Francis Thos. Steavenson, of Raventhorpe, Darlington.

WILDING—SCRIVENOR.—On Feb. 25th, at St. Thomas's, Seaforth, by the Rev. R. F. Smithwick, M.A., Walter F. W. Wilding, M.R.C.S. Eng., L.R.C.P. Lond., L.M., Coombe, M.O.H., Hindley, Lancashire, eldest son of Captain James Wilding, Liverpool, to Lucretia Mary Scrivenor, youngest daughter of the late G. H. Scrivenor, Esq., Inspector-General H.M. Customs, Hopeton House, Seaforth, Liverpool.

## DEATHS.

BAMFIELD.—On Feb. 28th, at Northumberland-street, Edinburgh, Samuel Bamfield, M.R.C.S., Deputy Inspector-General R.N., Retired, aged 54.

CAIRNES.—On Feb. 21st, at Greenock, David Cairnes, M.D., C.M. Glasg., aged 40.

HUMPHREYS.—On March 1st, at Lansdowne-road, Notting-hill, W., Thomas Bennett Humphreys, F.R.C.S., late of Tower-hill, City, aged 80.

LEAVER.—On Feb. 23rd, at Madeira House, Bournemouth, Charles Basil Leaver, M.R.C.S., L.R.C.P., second son of the late Rev. Henry Cosens Leaver, of Penselwood, Somerset, aged 33.

MICHAEL.—On Feb. 15th, suddenly, at Schloss Labers, Meran, Tyrol, William Henry Michael, Q.C., M.R.C.S., L.S.A., eldest son of the late Lewin Michael, of Swansea, aged 70.

ROSS.—On Feb. 25th, at his residence, Stanley-grove, Oxford-road, Manchester, James Ross, LL.D., M.D., F.R.C.P., Prof. of Medicine, Victoria University, aged 55.

STOCKER.—On Feb. 27th, Richard Charles Southby Stocker, M.R.C.S., M.A.C., of Belvoir, Littlehampton, and Chertsey, aged 65.

***N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.***

COOKERY.—The sixth exhibition of the Universal Cookery and Food Association will be held at Portman Rooms, Baker-street, from May 3rd to 7th.

THE BURTON-ON-TRENT NURSING INSTITUTION.—The report for 1891 states that it had been a year of unusual sickness. The number of cases attended was 575, and the visits numbered 15,730—an increase of 61 cases and 5320 visits. The committee had distributed £18 in bonuses among the various district nurses.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—At the next quarterly meeting of this Association, to be held in the Hall of the Faculty of Physicians and Surgeons, St. Vincent-street, Glasgow, on March 10th, at 2.30 P.M., Dr. Carswell will read a paper on "The Practical Difficulties of granting Certificates of Insanity and how they may be best overcome"; and Dr. Oswald will read a note on "Certain German Asylums."

IRISH GRADUATES' ASSOCIATION.—The annual general meeting of the Association will be held at 11, Chandos-street, Cavendish-square, W., on St. Patrick's Day, March 17th, 1892, at 5 P.M. The annual report will be presented, and the council will report its action in the matter of the Irish dispensary doctors' grievances, and the disabilities of Irish diplomates. On the same evening the Association will dine at the Holborn Restaurant at 7.30 P.M., Dr. James N. Dick, C.B., Medical Director General, in the chair.

SUSSEX COUNTY HOSPITAL.—The annual report for 1891 shows in comparison with the previous year a small increase in the number of in-patients and a large addition to the out-patients. During the year the finances had considerably improved by legacies received, which had enabled the committee to make substantial investments, and to add a sum of £2680 to the inalienable fund, whilst they had transferred £1037 to the available fund. The convalescent home continues to be a valuable auxiliary to the hospital, and the nursing institute is steadily growing in popularity and usefulness. The net profits show an increase of £142 2*s.* 4*d.* on the previous year. In the out-patients' department the refreshment bar had proved a great success.

LITERARY INTELLIGENCE.—Messrs. Churchill announce the early issue, in two vols. 8vo, of a Dictionary of Psychological Medicine, giving the definition, etymology, and synonyms of the terms used in medical psychology, with the symptoms, pathology, and treatment of the recognised forms of mental disorder, together with the law of lunacy in Great Britain and Ireland. The work will be edited by D. Hack Tuke, M.D., LL.D.—The second volume of the important work on the *Pathology of the Brain*, with clinical and anatomical studies, by Prof. Henschen, of the University of Upsala, will shortly be published by Kochler, Leipsic. The first volume appeared about two years ago, and was very well received. The work is abundantly illustrated.

## METROPOLITAN ASYLUMS BOARD.

*Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on March 1st, 1892.*

| Hospital. | Beds occupied. | | | | | | Total accommodation. |
|---|---|---|---|---|---|---|---|
| | Scarlet fever. | Diphtheria. | Typhus fever. | Enteric fever. | Other diseases. | Total | |
| Eastern Hospital .. .. | 186 | 61 | — | 20 | .. | 267 | 442 |
| North-Western Hospital | 189 | 40 | .. | 11 | .. | 240 | 411 |
| Western ,, | 92 | 24 | .. | 6 | 1 | 123 | 224 |
| South-Western ,, | 186 | 42 | .. | 14 | 1 | 243 | 250 |
| South-Eastern ,, | 203 | 33 | 1 | 30 | 2 | 265 | 424 |
| Northern ,, | 306 | 15 | — | 18 | ... | 339 | 480 |
| Totals .. .. .. | 1162 | 204 | 1 | 105 | 4 | 1476 | 2231 |

SMALL-POX.—South-Eastern Hospital, 1; *Atlas* hospital ship, 10

## MEDICAL NOTES IN PARLIAMENT.

*The Commission on Tuberculosis.*

IN the House of Commons, on Thursday, Feb. 25th, Mr. Chaplin informed Mr. Furness that the Royal Commission on Tuberculosis were still carrying on their investigations. Minutes of evidence had been printed for the use of the Commissioners, but had not yet been made public. He could not say when the investigations were likely to be concluded.

*Pollution of the Mersey and Irwell.*

This Bill, promoted by the Joint Committee of the County Councils of Lancashire and Cheshire for securing the purification of those rivers, was read a second time.

*Yellow Fever at Santos.*

On Tuesday, March 1st, in the House of Commons, Mr. Lawrence asked the President of the Board of Trade whether he was aware that the yellow fever at Santos had reached such a height that there was no one left to carry on business; that in consequence merchandise had accumulated to such an extent as to block the streets; that the epidemic had been aggravated by the authorities continuing to dredge the port.—Sir M. Hicks-Beach replied that the facts as stated in the question were substantially accurate. On Feb. 8th he had caused a notice to be sent to all daily papers, to the press agencies, and to Lloyd's, suggesting that, owing to the insanitary condition of Santos, no ships should be chartered for that port. He did not see that he could usefully take any further steps.

*Recreation Grounds.*

On the motion of Mr. Llewellyn leave was given to bring in a Bill to facilitate the provision of recreation grounds in rural parishes.

*The Gresham University.*

Mr. Bartley has undertaken to move that the Draft Charter of the proposed new University be not confirmed. It is understood that he will be supported by Mr. Mundella, Mr. Chamberlain, and other members of the House of Commons. In the course of the week a number of additional petitions praying Her Majesty to withold her assent from the Charter for the proposed Gresham University have been presented in the House of Commons. One petition came from Croydon, another from the Birkbeck Institution, and a third from the London Society for Extension of University Teaching.

*Mines (Eight Hours) Bill.*

When the second reading stage of this Bill is reached, Mr. Elliott Lees, one of the members for Oldham, will move "that this House declines to interfere with the freedom of grown-up men in regard to the disposal of their labour."

*Police and Public Health (Scotland) Bill.*

In the House of Commons, on Thursday, the Lord Advocate said it was the intention of the Government to introduce this Bill again. They hoped to do so in the course of a few days. The second reading must, however, depend on the condition of public business.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BEADLES, CECIL F., has been appointed Assistant Medical Officer to Colney Hatch Asylum, vice H. G. Shaw, resigned.

CAMPBELL, M. J., L.R.C.P., L.R.C.S. Edin., has been appointed Police Surgeon to the Essex-street and Brunswick Dock Bridewells, Liverpool, vice Arnold, deceased.

CLEGG, J. G., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Manchester Royal Infirmary.

COCKS, C. C., M.D. St. And., M.R.C.S., has been appointed Government Medical Officer and Vaccinator for the District of Hillston, New South Wales.

CONNOR, SAMUEL, M.D. Irel., has been appointed Public Vaccinator for Coleraine, Victoria, Australia.

COSSHAM, W. R., M.D., C.M. Aberd., M.R.C.S., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

CRIPPS, E. C., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

FOSTER-FOSTER, F. F., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Lady Strangford Hospital, Port Said, Egypt.

FOWLER, O. H., M.R.C.S., has been reappointed Senior Surgeon to the Cirencester Cottage Hospital.

GODFREY, C. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Junior Medical Officer at the Ararat Lunatic Asylum, Victoria, Australia.

HALAHAN, SAMUEL H., M.B., B.Ch. Dub., has been appointed Health Officer for the Shire of Lowan, Victoria, Australia.

HICKS, J. S., M.D. Lond., L.S.A., has been appointed Government Medical Officer at Roebourne and Public Vaccinator for the North-west of Western Australia.

HOOKER, C. P., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the Cirencester Cottage Hospital.

HORROCKS, HERBERT, M.B., B.Sc. Lond., M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., has been appointed House Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

KELLY, CHAS., M.D. Lond., F.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for the Horsham Urban Sanitary District of the Horsham Union, vice Kennier, resigned.

MACKINNON, C., M.B., C.M. Glasg., has been reappointed Medical Officer to the Cirencester Cottage Hospital.

MCKAY, W. J., M.B., M.Ch., B.Sc. Sydney, has been appointed Resident Medical Officer to the Soho Hospital for Women.

MILLER, H. L., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon-Major to the Victorian Volunteer Force, Australia.

MORRISON, R. H., M.B., C.M. Edin., has been appointed Public Vaccinator for Oakleigh, Victoria, Australia.

MORLAND, C. H. D., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Cardiff Infirmary, vice Thomas, resigned.

PARRY, A. A., M.B. Melb., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Melbourne Benevolent Asylum, Australia.

PLATT, J. E., M.D. Lond., L.R.C.P., M.R.C.S., has been reappointed Resident Medical Officer to the Barnes Convalescent Hospital, at Cheadle, Manchester.

PRITCHARD, W. B., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Manchester Royal Infirmary.

RENNEY, D., M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer to the St. Nicholas Parochial Board, Aberdeen.

ROBINSON, R. B., L.R.C.P., L.R.C.S., has been appointed an additional Public Vaccinator for the District of Christchurch, New Zealand.

SCOTT, C. C., M.B., C.M. Edin., has been reappointed Medical Officer for the Sixth Sanitary District of the Brentford Union.

SHAW, HUGH GROSVENOR, L.R.C.P., M.R.C.S., late Assistant Medical Officer, Colney Hatch Asylum, has been appointed Medical Officer to the Buntingford Union, vice H. S. Challenor, resigned.

SPENCER, W., L.R.C.P., L.M., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Borough of East Retford.

VARDON, A. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Northern Division of the Parish of Glenelg.

WITHERS, J. S., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Sale Urban Sanitary District of the Altrincham Union.

WOOLDRIDGE, A. T., L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer for the Harberton District of the Totnes Union.

# Vacancies.

***For further information regarding each vacancy reference should be made to the advertisement.***

BEDFORD GENERAL INFIRMARY.—Resident Surgeon. Salary £100 per annum, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Birmingham.—Assistant House Surgeon. Salary £50 per annum, with apartments and board.

BRIDGEWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

CAMBERWELL HOUSE ASYLUM, Camberwell, S.E.—Junior Medical Officer. Salary to begin at £100 a year, with board, lodging, washing, &c.

CAMBERWELL PROVIDENT DISPENSARY, S.E.—Medical Officer.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238A, Gray's-inn-road, W.C.—House Surgeon.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS, Netherfield road and Grafton-street.—Resident Medical Officer at the City Hospital North, Netherfield-road, and at the City Hospital South, Grafton-street, at a salary of £100 per annum each, increasing £10 per annum to £120 as a maximum (subject to a contribution of £5 per cent. to the Superannuation Fund), together with board, washing, and lodging at the hospital in each case. (Apply to the Town Clerk, Town Clerk's Offices, Liverpool.)

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Board and residence and allowances for washing provided.

COUNTY ASYLUM, Whittingham, Preston.—Assistant Medical Officer. Salary £150 a year, with board, lodging, washing, and attendance.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon. Salary to commence at £85 per annum, with board, residence, and washing in the house. (At the end of year a gratuity of £15 is usually given by the committee.)

EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

EXETER CITY ASYLUM, Digbys, near Exeter.—Assistant Medical Officer. Salary £100 per annum, increasing by £10 annually to £150, with board, lodging, and washing.

HOSPITAL FOR WOMEN (LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants in the out-patient department.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN, Myrtle-street.—House Surgeon. Salary £85 per annum, with board and lodging.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Physician to in-patients.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Physician.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon.

NATIONAL DENTAL HOSPITAL, 149, Great Portland-street, W.—Anæsthetist.

NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W.—Surgical Registrar. Honorarium £20 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Junior House Surgeon for nine months. Salary at the rate of £60 per annum.

PARISH OF BERMONDSEY.—Analyst. (Applications to be addressed, "Application for Analyst," Town Hall, Spa-road.)

ROYAL BERKS HOSPITAL, Reading.—Assistant House Surgeon. Salary £40 per annum, with board and lodging.

ROYAL COLLEGE OF PHYSICIANS, Pall-mall East, London.—Milroy Lecturer.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Physician.

ST. MARK'S HOSPITAL FOR FISTULA &c., City-road, London, E.C.—House Surgeon for twelve months. Salary £50, with board and residence in the hospital.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SHEFFIELD UNION.—Resident Assistant Medical Officer for the Workhouse at Fir Vale, Pitsmoor. Salary £100 per annum, with apartments, rations, and the other usual allowances.

THE RETREAT, York.—Junior Assistant Medical Officer. Salary £80 per annum, with board, lodging, and washing.

TONBRIDGE UNION.—Medical Officer for the Third District of the Union. Salary £50 a year, with such extra fees sanctioned by the Local Government Board. (Apply to Mr. F. W. Stone, Clerk, Tunbridge Wells.)

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS AND EPILEPSY, 73, Welbeck-street, London, W.—Three Physicians. One Surgeon. One Surgeon for Throat and Ear. One Ophthalmic Surgeon. One Dental Surgeon.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon. Salary £50 per annum, with board and residence in the hospital.

# Births, Marriages, and Deaths.

## BIRTHS.

GODFREY.—On Feb. 23rd, at Ventnor, I.W., the wife of H. W. Godfrey, M.D., M.R.C.S., of a son.

HEATHERLEY.—On March 1st, at New Ferry, Cheshire, the wife of Francis Heatherley, M.B., B.S., F.R.C.S., of a daughter.

LUSCOMBE.—On Feb. 22nd, at Cromer House, Teddington, the wife of Thomas Benjamin Luscombe, L.R.C.P.E., of a son.

NEWBOULD.—On Feb. 28th, at Abbots Bromley, Staff., the wife of Newton J. Newbould, L.R.C.S., L.R.C.P.E., of a daughter.

PINCOTT.—On March 1st, at Calverley-parade, Tunbridge Wells, the wife of James C. Pincott, M.R.C.S., of a daughter.

RIGDEN.—On Feb. 27th, at Burgate, Canterbury, the wife of Brian Rigden, M.R.C.S., of a son.

## MARRIAGES.

GREEN—CROWDY.—On Feb. 25th, at St. Giles's Church, Reading, Edward S. Green, M.D., of Woodside, Croydon, to Elizabeth Selina, second daughter of the late Hon. Charles Crowdy, M.L.C., of St. John's, Newfoundland.

JOHNSON—MAXWELL.—On Tuesday, Feb. 2nd, at Holy Trinity Church, by the Bishop of Sierra Leone, assisted by Archdeacon Robbin, O. Johnson, B.A., M.D. Edin., M.R.C.S. & L.S.A. Lond. (Associate of King's College, London), to Mabel Emily, daughter of the Rev. Th. Maxwell, Retired Chaplain, late of the Gold Coast.

MOORE—MCILWRAITH.—On March 1st, at St. Peter's Church, Cranley-gardens, Stephen Henry Moore, M.R.C.S., of Sydney-street, S.W. (Medical Superintendent, Chelsea Infirmary), to Effie, daughter of John McIlwraith, of Melbourne.

ROBSON—BROWN—On Thursday, Feb. 25th, at Ingleby-Arncliffe, Robert Barker Robson, M.B. Durh., M.R.C.S. Eng., Alnwick, to Constance Beatrice, youngest daughter of Douglas Brown, Esq., Q.C., Arncliffe Hall, Northallerton.

SANDERS—DARNELL.—On March 1st, at St. Paul's, York-place, Edinburgh, by the Rev. D. Darnell, Vicar of Welton, Northamptonshire, grandfather of the bride, assisted by the Rev. Rowland Ellis, Rector of St. Paul's, Gordon Sanders, M.B., elder son of the late W. R. Sanders, Professor of Pathology in the University of Edinburgh, to Georgina Frances, eldest daughter of the Rev. Charles Darnell, of Cargilfield, Trinity, Edinburgh.

TOWNSEND—STEAVENSON.—On Feb. 25th, at Holy Trinity Church, Darlington, Francis Edward Townsend, M.D., of Normanby, Cleveland, eldest son of Edward Richard Townsend, M.D., Professor of Medicine, Queen's College, Cork, to Annette Theresa, eldest daughter of Francis Thos. Steavenson, of Raventhorpe, Darlington.

WILDING—SCRIVENOR.—On Feb. 25th, at St. Thomas's, Seaforth, by the Rev. R. F. Smithwick, M.A., Walter F. W. Wilding, M.R.C.S. Eng., L.R.C.P. Lond., L.M., Coombe, M.O.H., Hindley, Lancashire, eldest son of Captain James Wilding, Liverpool, to Lucretia Mary Scrivenor, youngest daughter of the late G. H. Scrivenor, Esq., Inspector-General H.M. Customs, Hopeton House, Seaforth, Liverpool.

## DEATHS.

BAMFIELD.—On Feb. 28th, at Northumberland-street, Edinburgh, Samuel Bamfield, M.R.C.S., Deputy Inspector-General R.N., Retired, aged 54.

CAIRNES.—On Feb. 21st, at Greenock, David Cairnes, M.D., C.M. Glasg., aged 40.

HUMPHREYS.—On March 1st, at Lansdowne-road, Notting-hill, W., Thomas Bennett Humphreys, F.R.C.S., late of Tower-hill, City, aged 80.

LEAVER.—On Feb. 23rd, at Madeira House, Bournemouth, Charles Basil Leaver, M.R.C.S., L.R.C.P., second son of the late Rev. Henry Cosens Leaver, of Penselwood, Somerset, aged 33.

MICHAEL.—On Feb. 15th, suddenly, at Schloss Labers, Meran, Tyrol, William Henry Michael, Q.C., M.R.C.S., L.S.A., eldest son of the late Lewin Michael, of Swansea, aged 70.

ROSS.—On Feb. 25th, at his residence, Stanley-grove, Oxford-road, Manchester, James Ross, LL.D., M.D., F.R.C.P., Prof. of Medicine, Victoria University, aged 55.

STOCKER.—On Feb. 27th, Richard Charles Southby Stocker, M.R.C.S., M.A.C., of Belvoir, Littlehampton, and Chertsey, aged 65.

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## METEOROLOGICAL READINGS.

*(Taken daily at 5.30 a.m. by Steward's Instruments.)*

THE LANCET Office, March 3rd, 1892.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp | Rain-fall. | Remarks at 9.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Feb. 26 | 30·03 | E. | 39 | 39 | 47 | 43 | 39 | .. | Foggy |
| ,, 27 | 30·13 | N.E. | 38 | 37 | 52 | 43 | 37 | .. | Overcast |
| ,, 28 | 30·03 | N.E. | 38 | 37 | 57 | 45 | 37 | .. | Cloudy |
| ,, 29 | 29·85 | N.E. | 39 | 38 | 63 | 43 | 38 | ·01 | Overcast |
| Mar. 1 | 29·89 | N.E. | 38 | 37 | 51 | 41 | 36 | ·07 | Raining |
| ,, 2 | 30·06 | N.E. | 32 | .. | 37 | 33 | 30 | ·09 | Snowing |
| ,, 3 | 30·25 | N.E. | 30 | .. | 42 | 32 | 29 | .. | Snowing |

# Medical Diary for the ensuing Week.

### Monday, March 7.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital: 1 P.M., Mr. A. Stanford Morton: Ocular Injuries.—Great Northern Central Hospital: 8 P.M., Dr. Galloway: Malignant Growths.

ROYAL COLLEGE OF SURGEONS.—4 P.M. Mr. J. Hutchinson, jun.: Syphilitic Affections of the Bones, Joints, and Lymphatic System.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-sq., W.C.).—8 P.M. Discussion on Irregularities associated with Anterior Protrusion of the Upper Teeth. Mr. F. Newland-Pedley: Dry Specimen of Sequestrum from the Buccal Surface of the Alveolar Process.—Dr. Roughton: Case of Sarcoma of the Hard Palate.

MEDICAL SOCIETY OF LONDON.—General Meeting, 8 P.M. Ordinary Meeting, 8.30 P.M. Dr. Lauder Brunton: Pathology and Treatment of Piles.—Mr. Boyce Barrow: Prostatectomy by the Clamp and Cautery.

ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

### Tuesday, March 8.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Professor V. Horsley: The Brain.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Dr. Payne: Local Treatment of Cutaneous Inflammation.—Bethlem Hospital: 2 P.M., Dr. Hyslop: Moral Insanity.—Charing-cross Medical School: 8 P.M., Dr. Dakin: Convulsive Affections of Pregnancy and Labour.

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Francis Warner: Enquiry as to the Physical and Mental Condition of School Children. (First Milroy Lecture.)

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. J. Greig Smith: Enterostomy in Intestinal Obstruction.—Mr. Richard Barwell: The Operative Treatment of Congenital Dislocation of the Hip.

### Wednesday, March 9.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSTITAL.—Operations, 2 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Percy Kidd: Examination of the Sputum for the Tubercle Bacillus.—Royal London Ophthalmic Hospital: 8 P.M., Mr. J. B. Lawford: Toxic Amblyopia.—Parkes Museum (Margaret-st., W.): 1 P.M., Dr. Louis C. Parkes: School Hygiene and Hygiene of Special Trades and Occupations.

ROYAL COLLEGE OF SURGEONS.—4 P.M. Mr. J. Hutchinson, jun.: Syphilitic Affections of the Bones, Joints, and Lymphatic System.

HUNTERIAN SOCIETY.—8.30 P.M. Pathological Evening. Mr. T. H. Openshaw: Subdural Hæmorrhage.—Dr. F. C. Turner: Malignant Stricture of Sigmoid Flexure, Secondary Growths in Colon.—Dr. Chaplin: (1) Gangrene of Lung from Pressure of Aneurysm of Aorta; (2) Enlarged Bronchial Glands producing Asphyxia.—Mr. John Poland: Epithelioma of Cicatrix from a Man aged thirty-five.

### Thursday, March 10.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Arkle: Pathological Demonstration—Tuberculosis.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. Semon: Paralytic Affections of the Larynx.—London Throat Hospital, Gt. Portland-st.: 8 P.M., Dr. Whistler: Syphilis of the Throat.

BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Dr. W. J. Smyly: Extirpation of the Uterus for Myoma.—Mr. Lawson Tait and Dr. C. Martin: Tubal Abortion in Ectopic Gestation.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY (Great Northern Central Hospital).—8.30 P.M. Dr. Patterson will show a series of Lantern Slides illustrating Surgical Diseases. Dr. O'Reilly will show a Thyroid Tumour removed by Operation, and the Patient. Dr. O'Reilly will also read a paper on an Unusual Case of Twins.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8.30 P.M. Patients and Card Specimens at 8 P.M. Dr. Rockliffe: Case of Proptosis.—Mr. Hartridge: Double Lachrymal Fistula, probably Congenital.—Mr. Work Dodd: Scleroderma of Lid and Cheek.—Mr. Hulke: Arterio-venous Aneurysm of Orbit.—Dr. Wood: (1) Disease of Retina and Choroid, with Detachment of Retina; (2) Double Coloboma in Fundus; (3) Bleaching of Eyelashes and Eyebrows in Sympathetic Irido-cyclitis.—Mr. Lawford: Reversible Spectacle Frame.—Mr. Treacher Collins: On the Minute Anatomy of Pyramidal Cataract (Lantern Slide Demonstration).—Mr. Tweedy: The Physical Factor of Conical Cornea.—Mr. Kingdon: Rare Fatal Disease of Infancy, with Symmetrical Changes at Macula Lutea.

ROYAL COLLEGE OF PHYSICIANS (Examination Hall, Victoria Embankment).—5 P.M. Dr. Francis Warner: Enquiry as to the Physical and Mental Condition of School Children. (Second Milroy Lecture.)

### Friday, March 11.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL (Fulham-road, S.W.).—4 P.M. Mr. F. Bowreman Jessett: Colotomy.

LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Percy Kidd: Some Forms of Myocardial Disease.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Typhoid Fever, Diphtheria (Sections).—Charing-cross Medical School: 8 P.M., Dr. J. Watt Black: Metrorrhagia.

ROYAL COLLEGE OF SURGEONS.—4 P.M. Mr. J. Hutchinson, jun.: Syphilitic Affections of the Bones, Joints, and Lymphatic System.

CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Damer Harrison: A case of Nerve Grafting.—Mr. Page: Peritonitis from Hæmorrhage; Abdominal Section in a case of Ruptured Spleen, and in two cases of Ruptured Liver.—Dr. Percy Kidd: A case of Mediastinal and Pulmonary Carcinoma associated with Retraction of the Chest Wall.—Mr. Arbuthnot Lane: Cases illustrating the Modes in which a Strangulated Loop of Bowel reacts to the Constricting Medium

### Saturday, March 12.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Hyslop: Legal Aspects of Insanity.

ROYAL INSTITUTION.—3 P.M., Right Hon. Lord Rayleigh: Matter, at Rest and in Motion.

# Notes, Short Comments, & Answers to Correspondents.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*All communications relating to the editorial business of the journal must be addressed "To the Editors."*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *to be addressed "To the Publisher."*

*We cannot undertake to return MSS. not used.*

### THE AMENITIES OF THE PROFESSION.

*Perinelt* complains that, in a case of Colles' fracture which he put up temporarily till he could get a proper splint, his professional neighbour took the case out of his hands without any expression of regret or intimation. The patient was probably largely to blame, but medical men, by being neighbourly in such circumstances, can do much to teach patients to respect the profession.

*Mr. Clarence Beesley.*—We published in THE LANCET of Nov. 14th last a full statement by our Paris correspondent of the examinations required to be passed by foreign candidates.

*Mr. J. A. Smith* (Wakefield).—We confess our views are not quite in accord with those of our correspondent on the point he mentions.

## DUTIES OF MEDICAL OFFICERS OF HEALTH.

*To the Editors of* THE LANCET.

SIRS,—I have been medical officer of health for Fulwood for about sixteen years, during which period the township has increased greatly in population and importance. It is one of the suburbs of Preston, and usually has a remarkably low death-rate, and enjoys a great immunity from contagious diseases; in fact, it may be put down as an exceedingly healthy suburban district. About a year and a half ago the County Council appointed a medical officer of health to the county of Lancaster, who immediately began to exercise a supervision over me, and requested me to furnish him with a copy of my annual report, mortality statistics, a special annual report on a form of his own, and, lastly, sent me a book of forms to fill up monthly. This happened although I never had any intimation whatever from any person in authority as to the new relationship that had to exist between me and the County Council or its medical officer of health; nor was any mention whatever made as to any increased remuneration in consequence of the evidently intended increase of work. This being so, last year I made an application for an increase of salary to the Fulwood Local Board of Health. This application was totally ignored, so when I this year sent in my usual annual report I sent therewith a letter which you will see in the copy of the *Preston Guardian* I forward to you, and which you will observe has elicited some strong comments from the chairman. My contention is:—1. I was appointed by the Fulwood Local Board of Health, subject to the approval of the Local Government Board, for three years. 2. I have received absolutely no official communication whatever indicating any new relationship between me and the County Council, or defining my duties. 3. As a matter of fact, except generally, I am not supposed to know that a County Council exists. 4. A considerable body of new work is sought to be placed on me without any indication whatever of my being remunerated for it. 5. On making application for a reasonable recompense for the extra work my application was ignored, but I was verbally (unofficially) informed that my appointment was for three years, and no application for increase of salary could be considered till the lapse of that time. 6. My appointment has never been cancelled. Under these circumstances, and as the question concerns many other medical officers besides myself, I venture to ask your advice on the above questions, and particularly on the stand I am taking in my refusal to recognise the County Council as being in any way entitled to receive any information or reports or particulars whatever from me.

Should you feel disposed to print this letter or any part of it, along with a notice of the proceedings of the Fulwood Local Board, it might elicit some expressions of opinion from other medical officers of health similarly situated as myself.—Yours truly,

JAMES A. RIGBY, M.D. Lond.,
Preston, Feb. 29th, 1892. Medical Officer of Health for Fulwood.

*** The only duty imposed upon medical officers of health, in addition to the duties which they had to perform before the passing of the Local Government Act of 1888, relates to the necessity of sending to the County Council copies of annual and certain other reports. Under Section 19 of the Act in question it is required as follows:—"Every medical officer of health for a district in any county shall send to the County Council a copy of every periodical report, of which a copy is for the time being required by the regulations of the Local Government Board to be sent to the Board; and if a medical officer fails to send such copy, the County Council may refuse to pay any contribution, which otherwise the Council would in pursuance of this Act pay towards the salary of such medical officer." This requirement has been statutory since January, 1889, and it cannot be evaded. But it is strictly limited to copies of the actual reports in question; the County Council have no power to require any such reports to be drawn up in a special manner or according to special forms, and any compliance with such requirements as are referred to is entirely voluntary on the part of medical officers of health. Indeed, some of the suggested forms clash inconveniently with the requirements of the Local Government Board, which must be complied with.—ED. L.

*Mr. J. Reiner.*—(1) The second volume of the last edition of Quain and Sharpey; (2) Hartridge on the Refraction of the Eye; (3) Swanzy's Diseases of the Eye. No qualification to practise as an ophthalmic surgeon can be obtained without passing through the ordinary curriculum of medicaleducation. No one can or ought to take up a special subject of this kind without a thorough knowledge of medicine and surgery.

*Mr. J. Oldfield.*—The subject is doubtless of importance; but we fear its discussion in the way proposed would make too great a demand on our space.

*Dr. L. G. Guthrie.*—Very soon.

## THE IRISH COUNTY COUNCILS BILL.

*To the Editors of* THE LANCET.

SIRS,—Allow me to call your attention to the retrograde provisions of the above in regard to sanitation. Fixity of tenure is not secured to the health officers. Their compulsory appointment, qualification, and remuneration are doubtful. I do not see that the Treasury is to contribute half the salaries, as is the case with the Scotch and English Acts. Free criticism on the part of the press is clearly needed.

I am, Sirs, yours faithfully,
Cashel, Feb. 26th, 1892. THOMAS LAFFAN.

## "TOUTING," WITH HIGH SANCTIONS, AT CAMBRIDGE.

*Cantab.* complains that a handbill had been left at one of his patient's houses advertising medicine and attendance on easy terms at "The Cambridge Provident Dispensary." The list of officers is imposing, beginning with Professor Humphry as President, and including the names of Mr. Bond, chairman of the Board of Guardians, and Dr. Sidgwick, chairman of the Executive Committee of the C. O. S. The names of the medical staff are given. The gentlemen mentioned above doubtless share the opinion of many that it is better that people whose wages do not exceed 25*s.* a week should have their medicine on Provident terms than on pauper or gratuitous terms. But they will agree with us that such overtures should not be made to patients of other medical men who are honourably employing them on private terms.

*Dr. A. L. Griffith.*—The Philosophical Transactions for 1861 published a table of weights of the human body at several ages. The table was compiled and abridged from Dr. Boyd's researches in upwards of 2000 post-mortem examinations, and was included in a communication by Dr. Sharpey to the Royal Society in the year mentioned.

*Perplexed.*—1. We think it does. 2. This is a question we cannot answer without seeing both agreements. Our correspondent should consult a solicitor.

## DYSMENORRHŒA.

*To the Editors of* THE LANCET.

SIRS,—Can any of your readers suggest treatment for the following case, which has quite baffled me?

A young girl, rather anæmic, otherwise healthy, but development very backward, inclined to be hysterical at the period, has suffered for the past year at each period from agonising pain which precedes the flow, which is scanty, and lasts from four to five hours. Everything, including morphia, fails to give relief except hot fomentations, which give slight relief. The catamenia are often delayed until the fifth or sixth week. I have prescribed in turn arsenic, aloes and iron, ergotine, bromides, valerian, caulophyllin, pulsatilla, and aletris cordial, without any effect. There is considerable ovarian excitement. I am therefore persevering with bromide, but I would be glad to know of any of your readers' experience of apiol, or any hints as to treatment.

I am, Sirs, yours truly,
March, 1892. BAFFLED.

*Mr. Stocker.*—1. The duties of the relieving officer are numerous, and are described in Glen's Poor Law Orders.—2. The relieving officer is supposed to be at home during certain hours to give orders, but no official mention is made of his power to delegate this function to his wife or daughter, though, as a matter of fact, in the unavoidable absence of the relieving officer, orders are often signed by them.

*L.R.C.P.E.*—The clause is of a very extraordinary nature, and as such a clause has probably never been the subject of judicial decision, it is impossible to say what interpretation a court might put upon it; but as the assistant was presumably of full age and competent understanding, we see no legal reason why the penalty should not be enforcible.

## TREATMENT OF PHOTOPHOBIA.

*To the Editors of* THE LANCET.

SIRS,—It might be interesting to record a novel way of treating photophobia.

A patient came to me with acute conjunctivitis, œdema of the lids, &c. He stated that having had pain in the eyes recently, he had, "to get the inflammation out," poulticed them with mustard. The inflammation has come out.

I am, Sirs, yours faithfully,
Westminster, March 2nd, 1892. FRANK HAYDON, L.R.C.P.Lond.

*** It may be necessary to remark, in reference to the above, that if a surgeon orders such an application he should give explicit directions as to how it should be used.—ED. L.

## INJUSTICE UNDER THE NOTIFICATION ACT.

*To the Editors of* THE LANCET.

SIRS,—Referring to "B. M.'s" letter and your answer, it bears no relation to mine. Perhaps I did not make my case clear enough. I was attending a patient for cancer of the stomach, and he was attacked by erysipelas. The question was not one of diagnosis. The medical officer never saw the man, but the sanitary inspector saw him some days afterwards, and the man, who had never been informed of the nature of his recent trouble, told the inspector that he had not had it. His wife has certified by a certificate signed by her that he has had it, and that I attended him. You will see that it is no question of diagnosis, as the medical officer never saw the case. The case, I understand, is unique, and the injustice and absurdity very great.

I am, Sirs, yours faithfully,
Colchester, March 2nd, 1892. JOHN WELLER.

*** Our correspondent is clearly entitled to his notification fee, and should enforce its payment.—ED. L.

*Dr. Gilbert* (Baden-Baden).—It would be hardly fair to extol the merits of one preparation when there are others of the same kind in the market of equal excellence.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Althaus, London; Messrs. Armstrong and Paton, Manchester; Messrs. Austin and Son, Bristol; Mr. Birmingham, Queensland; Messrs. Blondeau et Cie., London; Mr. Branch, Bath; Mr. L. Browne; Messrs. Bush and Co., London; Messrs. Boulton and Paul, Norwich; Mr. Stanmore Bishop, Manchester; Mr. Birchall, Liverpool; Dr. Briggs, Liverpool; Mr. Beesley, Waltham; Mr. A. Codd; Messrs. Crossley, Moir, and Co., London; Mr. Corniah, Manchester; Mr. Clegg, Liverpool; Mr. S. Cowell, London; Mr. M. A. Chambers, Sheffield; Dr. Campbell, Garlands; Mr. Clayton, Accrington; Mr. Campbell, London; Mr. Dobbs, Folkestone; Mr. Davies, Bristol; Dr. Dale, Isle of Wight; Dr. E. Davies, Wrexham; Messrs. Dodd, Stamford-hill; Messrs. Dawson and Sons, London; Dr. Dreschfeld, Manchester; Mr. Everett, London; Mr. Erichsen, London; Messrs. Francke and Co.; Messrs. Fannin and Co., Dublin; Mr. Foy, Dublin; Mr. Fawcett, Broughton-in-Furness; Dr. Gourley, Hartlepool; Mr. H. Green, London; Dr. Gilbert, Baden Baden; Mr. Garner, London; Mr. Gloster, Walsall; Mr. L. G. Guthrie, London; Mr. Herring, London; Mr. Harcourt, London; Messrs. S. Harris and Son, London; Dr. Herschell, Finsbury; Mrs. Hopkins, Plymouth; Mr. Herschell, London; Mr. Honeyman, Glasgow; Mr. F. Haydon, London; Mr. Jackson, Plymouth; Dr. J. Kerr, Bradford; Dr. Knott, Middlesbrough; Mr. Kaye, Huddersfield; Messrs. E. and S. Livingstone, Edinburgh; Messrs. Lumley, London; Mr. Langton, London; Dr. Love, Glasgow; Mr. Laffan, Cashel; Dr. E. M. Little, London; Mr. Moullin; Mr. McMillan, Hampstead; Messrs. Main and Son, London; Mrs. Morgan, Stoke Newington; Messrs. Mather and Crowther, London; Mr. J. Miller, Colchester; M. Merck, Darmstadt; Dr. Money, London; Mrs. Meredith, London; Mr. Niven, Oldham; Mr. Osburne, Hythe; Messrs. Oppenheimer, Son, and Co., London; Mr. Page, Newcastle-on-Tyne; Messrs. Philip and Son, London; Mr. G. Q. Roberts, London; Mr. Rajausingham, Aberdeen; Dr. Rigby, Preston; Mr. Simonds, Washington; Mr. Stapleton; Messrs. Shelley and Co., London; Mr. H. W. Scriven, London; Dr. Seaton, Clapham Common; Mr. Sell, London; Mr. Slater, Sheffield; Messrs. G. Street and Co., London; Signor Salvetti, Pavia; Dr. G. C. Smith, London; Mr. M. Sheild, London; Dr. Sainsbury, London; Mr. W. M. Thompson, London; Mr. Tresidder, London; Mr. Thistleton, London; Mr. F. Treves, London; Mr. Trimble, Enniskillen; Messrs. Tayler and Son, London; Mr. Wood, Leicester; Mr. Wilding, Hindley; Dr. Norman Walker, Edinburgh; Mr. Webb, Teddington; Messrs. J. Wright and Co., Bristol; Mr. Wilkinson, Westminster; Messrs. Wright, Dain, and Co., Birmingham; Mr. Roger Williams, London; Messrs. White and Son, London; Dr. Wallis, Preston; Senex; Secretary, Exeter City Asylum; C. P. M. S.; Rouseabout; Pensnett; Secretary, Northern Hospital, Manchester; Baffled; Cantab.; Maltine Manufacturing Co., Bloomsbury; M.A.Cantab.; J. H.; N., Blackpool; Early Closing Association, London; M.D., F.R.C.P., London; Secretary, Clerical and Medical Life Assurance Co., London; Synopsis, London; R. F. A.; A Guardian; Secretary, General Infirmary, Bedford; Partner; Doctor of Medicine; Crux, Cardiff; Hermes, Edinburgh; Secretary, National Dental Hospital; M. F., London.

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NEWSPAPERS.—*Birkenhead News, Royal Cornwall Gazette, Tunbridge Free Press, Hereford Mercury, Bombay Gazette, Vegetarian, Dewsbury Chronicle, Salisbury Chronicle, Ripon Chronicle, Peterborough Advertiser, Bedfordshire Standard, Bath Gazette, Staffordshire Advertiser, Sussex Coast Mercury, Salford Chronicle, Scotsman, Bradford Observer, South Wales Daily News, Western Mail, Newspaper Review, Insurance Record, Scottish Leader, Reading Mercury, Mining Journal, Law Journal, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Windsor and Eton Gazette, Yorkshire Post, Bristol Mercury, Birmingham Post, Cheltenham Examiner, Builder, Cape Times, Preston Guardian, Merthyr Express, Leicester Post, Architect, Local Government Chronicle, Surrey Advertiser, West Middlesex Advertiser, Le Temps (Paris), La Presse Médicale, Belge, Rochdale Star, Rugby Advertiser, Kendal Mercury, Lynn Advertiser, Southampton Times, Cambridge Express, Newark Advertiser, Liverpool Mercury, Halifax Courier, Manchester Guardian, Northampton Herald, Windsor and Eton Express, Temperance Record, The Child's Guardian, Phrenological Magazine, &c.*, have been received.


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